Textile World

OCTOBER, 1959

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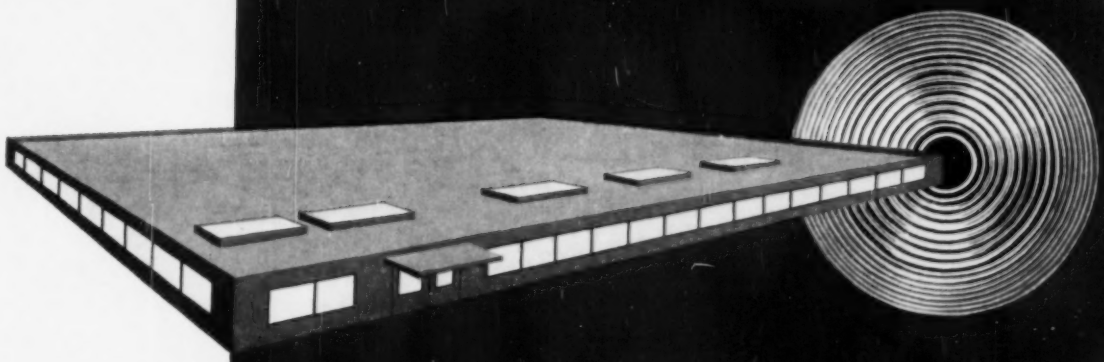

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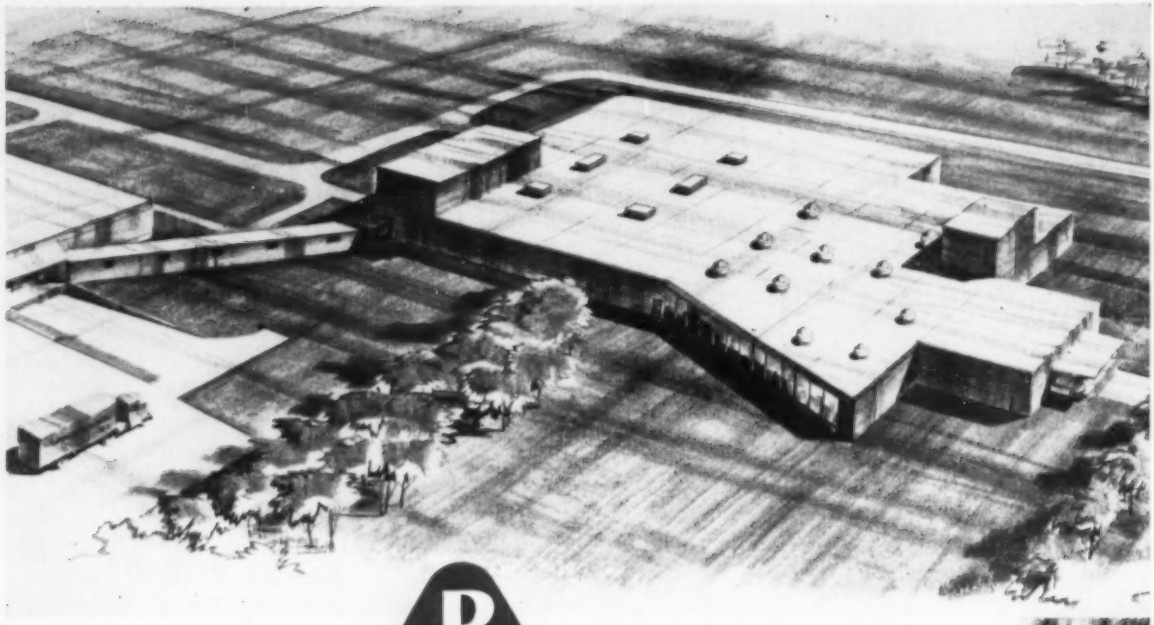

J. P. Stevens & Co., Inc., worsted finishing plant
Milledgeville, Ga.

ANOTHER PLANT
FOR STEVENS

A new worsted finishing plant, now in full production at Milledgeville, Georgia, for J. P. Stevens & Co., Inc. was planned by Robert & Company Associates, to complete the processing of suiting, piece goods and dress goods woven in Stevens' Milledgeville worsted mill.

In serving the leaders of the textile industry for 42 years, Robert and Company Associates have acquired a backlog of experience that may be helpful in planning your next project so that it will be completed on schedule and within your budget.

ROBERT AND COMPANY ASSOCIATES
Textile Engineering Division
ATLANTA

This Month in TEXTILE WORLD October, 1959

Volume 109, No. 10

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Two European Looms To Be Sold in the U. S.

MILAN—The big news at the Milan textile show was the announcement that Saco-Lowell Shops will sell a complete line of Belgian-made looms in the U. S. and Canada.

On the fifth day of the show, Sept. 16, an agreement was signed by Thomas J. Ault, president of Saco-Lowell, and Emmanuel Steverlynck, president of Metiers Automatiques Picanol S. A., Ypres, Belgium.

The Picanol looms will be competitive with Draper looms.

•

Swiss-built Ruti looms, competitive with both Draper and Crompton & Knowles looms, will be sold in the U. S. by Theiler Corp. of Whitinsville, Mass.

This announcement was also made during the show by Hans Theiler, president of Theiler Corp., and Ruti Machinery Works Ltd., Zurich, Switzerland.

Milan Show Brings Out New Equipment, Big Exhibits

MILAN—The Third International Textile Exhibition held here last month put on display the most advanced textile machinery and equipment the manufacturers of the leading textile countries of the world have developed.

In the sprawling exhibition halls of Milan's fair grounds, 636 exhibitors occupied over 36,000 square meters of floor space and showed their products to many thousand textile men from all over the world.

With the show providing unlimited floor space and coming in a year when the textile industry and textile-equipment manufacturers are enjoying the best business they've had in several years, the Milan show brought out exhibits never before equaled in sheer size. Instead of short sample frames, many spinning-frame manufacturers exhibited full-length frames; and some loom manufacturers staged exhibits that looked like small weave rooms.

For a full on-the-spot report of the exhibition, see the November issue of TEXTILE WORLD.

Forward-Buying Lag To Trigger Downturn?

Pessimism began to creep back into the textile picture last month.

Sales offices, jubilant a few weeks ago, were watching the doors after the Labor Day holiday hoping customers would arrive.

That's a sharp change from July and early August. At that time buyers were offering contracts further ahead than many mills wanted to commit themselves.

But early last month salesmen were complaining that many important customers not yet covered for the first quarter were still hanging back. Sales offices pinned their hopes on a renewed interest in buying once cooler weather gets under way.

At the mills, dissatisfaction was registered over the price and supply of cotton (see "New Cotton Support Price Has Little Effect on Mills," p. 4).

Mill men were quick to point out that mill margins (the difference between the buying price of cotton and the selling price of cloth) are now only "normal" and well below what they were in 1948-49. And it now looks as though the new-crop cotton will not significantly improve margins.

•

The pessimism reflects what probably will turn out to be the first warnings of a downturn (see "The Next Twelve Months," p. 45).

WORLD BRIEFS . . .

Soviets Commission Large New Rayon Combine

VIENNA—The newest rayon plant designed for an annual capacity of 45-million meters of woven material went on stream last month at the Siberian town of Biisk, according to Tass reports.

The combine covers an area of 50 hectares (123.4 acres). The spinning department is said to have 50,000 spindles and the weaving plant 3,000 of the most modern looms available.

•

Indian Textile Mills Protest Euromart Ban

BOMBAY—Textile interests here are bothered about reports that European Common Market countries have decided to bar Asian, South American, and Communist unfinished cotton goods from European markets and their overseas dependencies.

According to a spokesman of the Indian Cotton Mills' Federation, the organization is "amazed" that India should have been named as one of the countries guilty of "dumping cotton textiles and guilty of uncommercial selling and production methods." He said that had India been guilty, its exports to the ECM area would have been much higher than the 11.6-million yds. exported last year. The Federation is said to be appealing to New Delhi towards making a formal protest.

•

Latest Russian Plans Call for Textile Increase

VIENNA—The output of woven material in the U.S.S.R. is to increase from 7.5-billion meters in 1958 to 10.6-billion meters in 1965, according to A. N. Kussygin, Deputy Chairman of the U.S.S.R. Council of Ministers and chairman of the State Planning Commission GOSPLAN.

The statement also revealed that the Soviet textile industry is made up of 2,000 enterprises employing more than 1,300,000 engineers, technicians, and workers.

The 1958 textile-material output of 7.5-billion meters is 1.7 times more than was produced in 1940.

In spite of high production, a high rate of mill deliveries, good bookings, and low inventories, the last 17 months of steadily mounting business has about satisfied the market demand created by the months of bad business in 1957 and early 1958.

Judging by all the past experience of the textile industry, nothing short of war will prevent a downturn early next year, with the worst part coming in the second quarter.

Margins are not likely to reach the 1948-49 levels longed for by mills. Those levels resulted from World War II and yielded average industry profits of 8 to 9% of sales—double the normal average of all U.S. nondurable-goods industries.

And sales offices are not likely to have a spurt of forward demand this fall of anything like the summer proportions. When orders now booked are delivered, the market drain of this year will not exist. Buying must return to a buy-as-you-use basis.

•

But business should remain relatively good, even in next year's second quarter, better than at any time in 1958 and perhaps better than early 1959. Like margins, business will be bad only in comparison with the best periods.

Most economists forecast excellent general business for 1960. If that turns out, the textile dip will not be serious, perhaps 5% to 8% from the late-1959 peak. In the past, textile dips have been serious only when they coincided with general-business dips.

Such coinciding dips do not seem in the picture for 1960.

New Cotton Support Price Has Little Effect on Mills

New-crop cotton, carrying an average support price 3¢ per lb. lower than a year ago, began to move into mills last month.

But the entire cotton situation is marked by confusion. While theoretically cotton should be 3¢ cheaper across the board, actually only the higher grades, Middling and better, are available at prices appreciably lower than last year's prices.

Intermediate and lower grades, used by big cotton consumers such as print-cloth mills, are selling for about as much as they did last year. And very little of this cotton is available right now. The new crop is only beginning to come in, and practically all of this type of lint held by the Commodity Credit Corp. from last year's crop was taken up early in the season by big mills and merchants.

The result is that mills normally using Strict Low Middling and lower grades have had to buy Middling and better grades at prices that offset the benefits of the nonavailable cheaper cotton. Strict Low and below are expected to stay in a squeeze because of pressure from mills that have learned to run these grades without impairing cloth quality.

•

The first 1959 cotton that moved into mills in appreciable quantities was largely from the Rio Grande Valley, where most of it sold for 225 to 250 points over the price established by the Commodity Credit Corp. There was spirited bidding among

the big mills and big merchants for this cotton. One large mill alone bought over 50,000 bales at the first sale.

The first sale of lots of SL to SM Choice A cotton, for example, went as follows:

CCC price	Mill purchase price
32.24¢	35.50¢
32.94	34.87
32.29	35.04
32.50	34.78
32.26	34.56
31.78	34.00

But mill men agreed that cotton prices will not affect cloth prices as long as present levels of inventories and production are maintained.

Print-cloth mills, for example, were in the best position they've experienced in several years. Although production has been running well ahead of last year, inventories are low and unfilled orders high. This situation should keep prices stable well into 1960, regardless of the price of cotton, mill men say.

Other types of cotton goods are also in a strong position. Combed cottons, depressed a year ago, have moved up in price. Carded and combed yarn have shown less improvement, but demand was still building up at the end of summer. Drills and twills improved, but the denim market is still low.

Use of Textiles in Autos Clipped in New Compact Cars

DETROIT—The textile industry may lose a significent hunk of one of its biggest markets next year: automobiles.

Small and compact cars, including imports, may sell well over 2-million units in the 1960 models. And these cars use considerably less textiles than standard cars. Textile losses in the smaller cars, compared to standard models, will run something like 14% in upholstery fabrics, 100% in carpeting, and 10% in tire cord.

The new compact models rolling off the Detroit production lines for the first time are notable for austerity, even with a deluxe-trim option. Here's how one compact model compares with a standard model in use of textiles:

	Compact (Falcon 4-door)	Standard (Fairlane 4-door)
Upholstery, cloth	6.2 sq. yds.	7.2 sq. yds.
vinyl	8.0 sq. yds.	8.0 sq. yds.
Textile padding	28 lbs., 5 oz.	28 lbs., 5 oz.
Rubber padding	3 lbs., 2 oz.	5 lbs., 4 oz.
Carpet	none	5.9 sq. yds.
Rubber carpet	4.9 sq. yds.	none
Tire cord	2.0 lbs.	2.2 lbs.

Detroit observers are talking about a "revolution" in car sales since the introduction of the new compacts, Corvair, Falcon, and Valiant. They expect the impact on the market of these small

The increase in output during the next seven years (1959 to 1965) is to amount to 3.1-billion meters in order to distribute, in 1965, 56 meters of textile material to each head of the Soviet population as compared to 41 meters delivered during 1958 and 18.1 meters distributed in 1918.

The Soviet textile industry operates 11.5-million spindles and 276,000 looms. Of these, 2,255,000 spindles and 61,500 looms were newly commissioned during the 1951 to 1958 period.

The planned increase for the current Seven-Year Plan amounts to 7.5-million spindles and 155,000 looms. This would mean a 64% increase in the spinning sector and a 56% increase in looms. A total of 24-billion rubles ($6-billion) has been earmarked for this project.

•

Hong Kong Exporters "Can't See" Export Controls

HONG KONG—The Hong Kong Garment Manufacturers' Union says it will take a long time to reach agreement on voluntary limits to export textile products to the United States.

It is not likely that such an agreement will be reached within two months as predicted by U. S. Assistant Secretary of Commerce Henry Kearns in Washington.

The American textile industry has been complaining against increased shipments of textiles from Hong Kong. Kearns visited here earlier this year in an effort to win local acceptance of voluntary control.

A Hong Kong garment workers' spokesman said local manufacturers are giving the problem the fullest consideration but that no agreement is yet in sight.

•

British Wool Machinery Ordered by Russia

LONDON—The Soviet Union has awarded a $700,000 contract for wool spinning machinery to the British company Platt Bros. (Sales), Oldham, a subsidiary of Stone-Platt Industries. Deliveries will start at the end of the year.

•

U. S. Girdle Firm Begins German Production

BONN — International Latex Corp. has started girdle-manufacturing operations at its recently founded German subsidiary, Internationale

Latex GMBH, at Alzey (Rhineland-Palatinate) with about 100 workers.

The plant will supply the German market and the European Common Market. Workers are expected to increase to about 1,000 within the next four years.

Latex believes that German girdle consumption can be increased by 200% to 300% within the next 10 years. At present, German women buy only one girdle every 1½ to 2 years, compared to three girdles bought by the average American female every year.

International Latex employs 6,000 workers in the U. S. and maintains production plants in Canada, Latin America, South America and Scotland.

•

Indian Cloth Consumption To Rise to 20.3 Yds.

BOMBAY — India's per-capita consumption of cloth will rise to 20.3 yds. this year from 16.7 yds. in 1958, the Indian Cotton Mills Federation estimates.

Based on this estimate, the Federation sets itself the target of producing 9,600-million yds. of cloth in 1966, 8,810-million yds. being earmarked for internal consumption and around 800-million yds. for export.

Production is expected to be distributed as follows: 6,300-million yds. by the organized sector, 2,500-million yds. by the hand-loom sector, and around 800-million yds. by the power-loom cottage sector.

In 1966, the population of India will have risen to 434-million.

•

Egypt Strengthens Cotton Position

CAIRO—The United Arab Republic disclosed new measures to boost the country's economy by promoting the cotton trade in particular and other exports in general.

The Economy Ministry canceled the export duty on some long-staple cottons to make Egyptian cotton prices competitive with world prices and raise the exchange rate of Egyptian pounds.

The ministry statement said the exchange control should implement measures to stop the re-export of

economy cars to be almost equal to that of the Ford Model T. Where the Model T put the nation's families on wheels, the new small cars are expected to put each member of the family on wheels.

Economists are looking for a banner year in 1960. Ford has forecast industry sales of 6.8-million cars and General Motors 6.9-million. Truck sales, expected to exceed 970,000 this year, are predicted to top the 1-million mark next year.

How much of this big 1960 passenger-car market the smaller cars will get is a question. George Romney of American Motors, whose Rambler largely started the trend to compacts, says that "2,250,000 smaller cars will be sold in 1960; and of this, 1,750,000 will be 'compacts'."

Romney figures that the U. S. will buy 500,000 imported cars, about the same as in 1959, 500,000 Ramblers, and 1,250,000 of the three new compact plus the Studebaker Lark.

•

The loss of textiles in automobiles will not be in direct proportion to the loss per car. Detroit expects more U. S. cars to be sold as a result of the smaller models. Without these models, fewer standard models would be sold than standard plus compacts. Even though the compacts use less textiles per unit, the increase in units will regain some of the threatened loss.

How much of the 2-million-plus sales of smaller cars will represent increased use is a guess.

Detroit expects an extension of the two-cars-per-family trend and even a move toward a car for every member of the family.

But much of these demands may be met by used cars and lower-price models of standard cars, as in the past. Ramblers, Larks, and imported small cars have made no directly traceable dent in these sales.

British Cotton Mills Begin Scrapping and Modernizing

LONDON—The program for reducing production capacity and modernizing the remaining capacity in Britain's cotton-textile industry got the go-ahead nod early last month.

With Aug. 31 the first deadline for making application to scrap obsolete equipment, the doubling section, the last section to come into the program, got in just under the wire.

(Applications received by Aug. 31 will be granted a 5% bonus for speed. Final date for application was Sept. 30.)

At the end of August, the Cotton Board had received applications from mills to scrap—

- 12-million mule-equivalent spinning spindles (target, 6-million)
- 14,000 cards
- 493,000 doubling spindles (target, 400,000)
- 95,500 looms (target, 45,000)

•

The reorganization program has two parts:

First, excess capacity is eliminated, with the government paying two-thirds of the cost of scrapping equipment and the

industry sections paying one-third.

Second, the production capacity that is left will be modernized, with the government paying one-fourth of the cost and the industry sections three-fourths.

The industry's share will be met by levies prorated against mills in each of the industry sections.

•

The go-ahead announcement on the program spelled out in greater detail some of the restrictions the government will impose.

To qualify for government compensation, a proposed modernization plan must—

- Not consist of repairs, maintenance, or normal replacement
- Not involve the purchase of second-hand equipment
- Be paid for by July 9, 1962
- Be completed by July 9, 1962
- Involve an expenditure of at least $6,720

If a mill applied for compensation for scrapping equipment and then replaces the scrapped equipment with new equipment, it must return to the government two-thirds of the compensation received for scrapping and must also pay compensation to workers eliminated by the modernization.

•

Spinners and weavers got their applications in well ahead of the Aug. 31 deadline, but doublers were reluctant.

With a target of 400,000 spindles to be eliminated, doublers had committed only 182,000 spindles up to five days before deadline.

Their reason: "With a definite trend towards improved business, why should we start scrapping now?"

Some doublers tried to hang their optimism on possible long-term factors. One favorite one was that the wash-and-wear market trend seemed to be weakening.

"Drip-dry materials, (which use mainly single yarn) aren't selling as well as they were; and sales of quality poplins and shirtings, which use yarns folded on doubling spindles, are increasing," some doublers reported.

But the Cotton Board maintained that even if business for doublers does improve there will still be excess capacity for scrapping.

As deadline approaches, doublers had to face the problem of whether to keep their cake or eat it. On the last day before deadline, enough of them decided to eat it to get the reorganization program under way.

New Nonwoven Company Gets $5-Million Send-Off

A new company to manufacture nonwoven fabrics and other materials was announced last month by J. P. Stevens & Co. and Kimberly-Clark Corp. The new corporation is capitalized at $5-million on a fifty-fifty basis by Stevens and Kimberly-Clark and will be known as Kimberly-Stevens Corp.

Although it is a jointly owned subsidiary, Kimberly-Stevens cotton. The source said the government will watch the ports of cotton importing countries to make sure that cotton is not re-exported.

The statement also banned barter deals in all U. A. R. export transactions.

These measures are considered a major step toward freeing the country from dependence on the Communist bloc whose resale of cotton priced Egyptian cotton out of Western markets.

•

Caron Spinning Mills Joins Dutch Venture

AMSTERDAM—The Caron Spinning Co. of Rochelle, Ill., and the Swiss company S. A. Lacoray of Geneva have established a new Dutch company for the manufacture of worsted band from synthetic fibers. The new company, which will start operations early in 1960, will be named N. V. Carolan and will be established at Veenendaal, in the center of the country.

The site of the new plant at Veenendaal has been bought, and contracts for the building have been awarded. Operations will begin with a personnel of 75, and the sales office for Euromart will be in Switzerland.

The worsted band to be made will be used mainly by the hosiery industry, and plans are being made to manufacture also terlenka (Terylene) tops.

•

Italy's Mill Production Above 1958, Below 1957

MILAN—Italian cotton-yarn production in May totaled 17,326 tons, compared to 18,762 metric tons in April and 17,326 metric tons in May of last year.

Over the first five months of 1959, cotton yarn produced in Italy amounted to 87,954 metric tons, compared to 86,915 metric tons in the same period in 1958 and 92,704 metric tons in 1957.

Italian cotton fabrics produced in May totaled 13,587 metric tons, compared to 14,782 metric tons in April and 14,029 metric tons in May of 1958. Production of cotton fabrics from January to May of the current year reached 68,293 metric tons, compared to 68,149 metric tons for the first five months of 1958 and 69,171 metric tons for the same period of 1957.

Rumania Plans Capacity Increase for Synthetics

VIENNA — Production of synthetic materials in Rumania is to increase from 2,000 metric tons in 1958 to 6,300 metric tons this year, the state new agency AGERPRESS has reported.

Scheduled to go on stream this year are the 5,500-metric-tons vinyl-polychloride plant of the Chemical Works in Turda and the plant for synthetic fibers and yarns.

A decisive boost in Rumanian synthetic-yarn production will come at the end of 1960 when the plant of Savinestti goes into production. It is scheduled to have a 5,000-metric-tons annual capacity of the perlon (German nylon) type of fiber named Rolan.

•

Indian Nylon Plant To Cut Dollar Flow

BOMBAY—The nylon plant now being set up on a 40-acre site near Bombay by Von Kohorn International is expected to save this country around $4-million in foreign exchange when the plant comes into full operation.

India now imports about seven tons of nylon a day.

The plant is being set up by the U. S. firm in collaboration with Indian "princes" and an Indian jeweler. The sponsors have raised a $1-million loan from the U. S. Export-Import Bank for plant and equipment costs.

Equipment will be purchased in the U. S., and the raw material, capralactum, will be imported from the U. S. "if U. S. prices are competitive."

But capralactum will be manufactured by the Indian company in about five years, when the plant now building is expected to reach five-tons-a-day capacity.

•

J. C. Penney Stores Seek Lebanese Textiles

BEIRUT—A visiting mission from the Overseas Service Corp., Washington, D. C., is reliably reported to be negotiating with Lebanese textile manufacturers for the purchase of

will operate separately from the two parent companies and will produce and market a wide range of nonwoven materials.

Joseph H. Sutherland, recently retired as Vice Chairman of Stevens, has returned to active duty to serve as president of the new company.

•

Production facilities of Kimberly-Stevens will be concentrated at Stevens's Westfield, Mass., plant. Present nonwoven activities of both J. P. Stevens and Kimberly-Clark will be transferred to Westfield, and the production capacity of that plant will be expanded.

Current production covers a variety of uses, ranging from costume garments and innerlining for garments to backing for vinyl coatings and high-loft materials for packing and stuffing.

The product lines will be extended, and manufacturing techniques will receive the benefit of research and development by both the paper company and the textile company.

•

J. P. Stevens & Co., Inc., is the second largest textile corporation in the U. S. and one of the oldest.

Now 146 years old, it operates 44 plants—11 woolen and worsted mills, 17 cotton mills, 13 man-made-fiber mills, and 3 finishing plants. It employs more than 32,000 people; and at the time its fiscal-1958 operating statement was issued, its 4,206,820 shares of common stock were owned by 11,359 holders. At recent market value of $31 a share, Stevens stock was worth $130-million, but book value is a little over $50 a share.

In the poor textile year of 1958, sales ran $386,330,770, down considerably from 1957 sales of $417,700,159. But income per share of common stock was $2.60, compared to $2.21 in 1957. Dividends on common shares amounted to $1.50 in each year.

A NEW NONWOVEN COMPANY . . . Kimberly-Stevens, was announced last month by Kimberly-Clark Chairman John R. Kimberly (left) and J. P. Stevens President Robert T. Stevens (right). Headed by Joseph H. Sutherland (center) as president, the new company will manufacture and market nonwoven fabrics and other materials.

Kimberly-Clark Corp. operates 39 paper, paper-products, and related plants. It also operates five seedling nurseries and three sawmills and is associated as an important corporate stockholder with five other paper companies in the U. S., Canada, France, and Germany.

Makers of such well-known products as Kleenex paper products and Kotex, the company is about equal in size to J. P. Stevens.

In 1958, sales ran $345,845,110, earnings per share of stock $2.92, and dividends per share $1.80. Book value was $26.49 per share of the 8,728,374 shares outstanding.

In stock-market value, at the recent price of $65, the shares outstanding were worth $567-million.

For the last five years, Kimberly-Clark has enjoyed steady growth. For the period 1955-59, sales and earnings per share ran:

	Sales	Earnings
1955	$257,700,537	$2.74
1956	293,530,661	2.89
1957	323,681,092	2.97
1958	345,845,110	2.92
1959	368,232,380	3.01

•

The formation of Kimberly-Stevens may be one of the most significant developments in late years in the field of nonwoven fabrics and other materials.

The nonwoven field is still in the development stage. Manufacturing techniques used by different companies engaged in these products are roughly similar, but extremely wide differences prevail. With the choice of fiber, bonding agents, and finishing method contributing such marked differences in end products for the same use, research, development, and control are vital factors in this growing field.

Nonwoven products are moving into uses now met by woven fabrics and by paper. It is almost certain that Kimberly-Stevens, with the benefit of know-how and research from the two directions—woven textiles and paper—will blaze new trails in both manufacturing and marketing.

Compact-Car Tires Use 10% Less Cord

AKRON—The new compact cars expected to sweep the country in the 1960 models are causing sharp changes in the tire field that are having important effects on tire-cord use.

Chevrolet's radically different Corvair, with the engine at the rear, posed a serious problem to tire-makers. It could not be handled safely except with a new long-cord-angle, low-profile tire. The problem was solved with the new 6.50x13 tire. With minor size differences, the same tire is used by Ford and Chrysler for their compacts.

The tire represents a tire-cord loss per tire of 10%. Where a 7.50x14 tire for a standard-size passanger car uses 2.2 lbs. of rayon cord, the 6.50x13 tire for the compact models uses only 2.0 lbs.

Lebanese textiles for the J. C. Penney chain of American department stores.

Negotiations are said to be going on with two Lebanese lawyers, Maurice Gemayel and Robert Kafoury, and to include other products besides textiles.

•

British Companies Plan To Merge

LONDON—Two large British textile firms, Tootal Ltd., of Manchester, and William Hollins and Co., of Nottingham, are planning a merger. If the deal goes through, the merged company will have assets worth some $15.73-million.

Tootal, 159 years old, has interests in spinning, weaving, and made-up garments. It claims to be the largest manufacturer of neckties in the world. Recently the company branched out into nonwoven fabrics and plastics. Overseas operations include subsidiaries in New York, Brussels, Montreal, and Copenhagen. Its assets are valued at about $10.5-million.

William Hollins, worth some $5.23-million, concentrates mainly on made-up garments but its most famous products are Viyella and Clydella fabrics.

Industry observers say Tootal and Hollins probably are in the vanguard of a movement towards vertical intergration in Britain's textile industry.

•

Italy Imports Hungarian Linen

MILAN—The Ministry of Foreign Trade announced that Italy will import $50,000 worth of linen fabrics from Hungary.

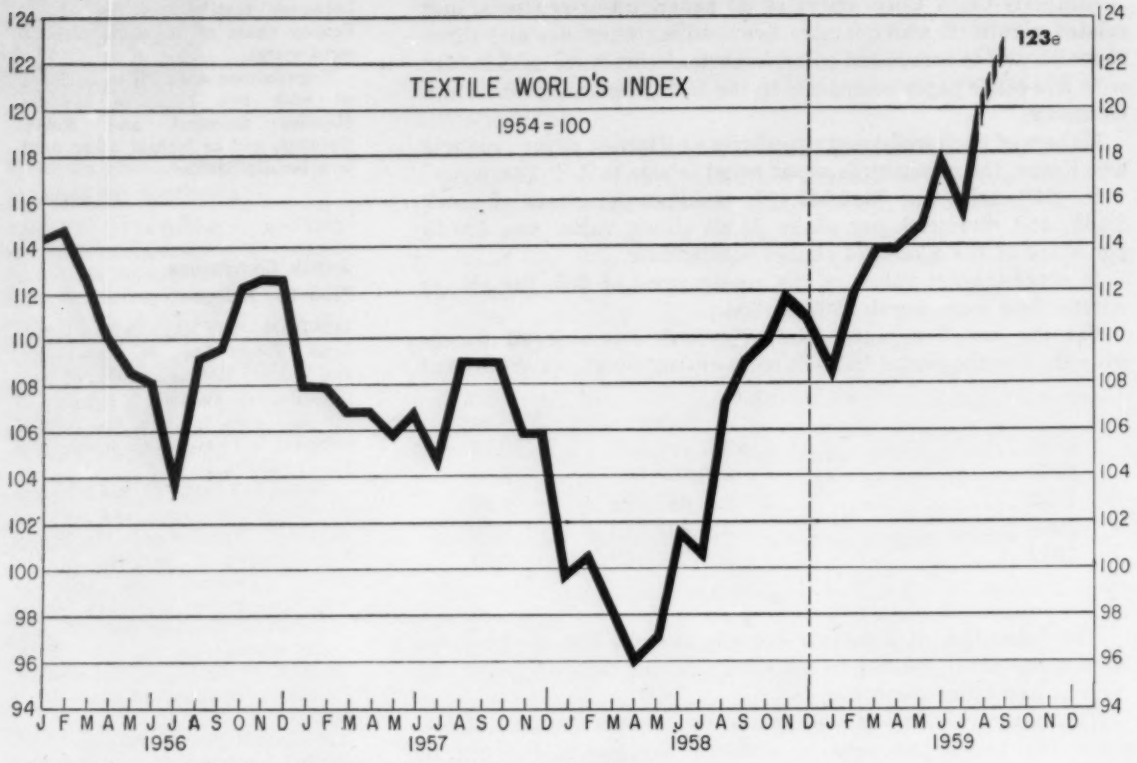
Imports will be divided in monthly quotas of $10,000.

•

Red China Claims New Rayon Plant

TOKYO—Peking radio reported that China's first modern rayon plant, located in Paoting, North China, went into partial operation late in July.

The radio said the plant was designed and equipped "with the help of East German technicians." The East Germans helped with the plant construction and also helped train skilled workers to run it.



Index of manhours worked in the textile industry adjusted for changes in productivity

Textile World's Monthly Indicators

	Latest Month	Previous Month	Year Ago
Textile World's Index (1954=100)	**123***	**120**	**109**
Employment (thousands) B.L.S.	984.5	965.2	946.4
Production Workers (thousands) B.L.S.	892.0	873.0	855.2
Weekly Earnings B.L.S.	64.62	63.83	59.19
Hourly Earnings B.L.S.	1.58	1.58	1.51
Weekly Hours Worked B.L.S.	40.4	40.9	39.2
Production Index (1947-49 = 100) F.R.B.	107**	117	86
Wholesale Price Index (1947-49 = 100) B.L.S.	95.5	95.3	93.3
Manufacturers' Sales (million $) Commerce	1,293**	1,281	1,061
Manufacturers' Inventories (million $) Commerce	2,490**	2,532	2,550
Inventories-to-Sales Ratio	1.93**	1.91	2.40
Exports (million $) Commerce	64.1**	78.6	105.1
Imports (million $) Commerce	92.5**	101.4	75.5
Stock Price Index (1941-43 = 10) Standard & Poor's	32.80	33.23	22.58
Failures (number) Dun & Bradstreet	3	4	11

National Economic Indicators

	Latest Month	Previous Month	Year Ago
Industrial Production (1947-49 = 100) F.R.B.	149	153	136
Consumer Price Index (1947-49 = 100) B.L.S.	124.9**	124.5	123.9
Wholesale Price Index (1947-49 = 100) B.L.S.	119.1	119.5	119.1
Population (millions) Census	174.9	174.6	171.7
Unemployment (millions) Census	3.4	3.7	4.7
Employment (millions) Census	67.2	67.6	65.4
Personal Income (billion $) Commerce	381.4	384.0	356.1

* Estimate for September. ** July. August is Latest Month in all other cases.

VIB

*Vacuum Impregnated Bobbin**

DRAPER CORPORATION

* *Patents Pending*

CIRCLE 11 ON READER SERVICE CARD

MORE THAN 3½ MILLION SPINDLES NOW EQUIPPED WITH ROBERTS HIGH DRAFT

ROBERTS SPINNING NEWS

PUBLISHED BY ROBERTS COMPANY SANFORD, NORTH CAROLINA

WM-2 SANFORD, NORTH CAROLINA, U. S. A. 1959

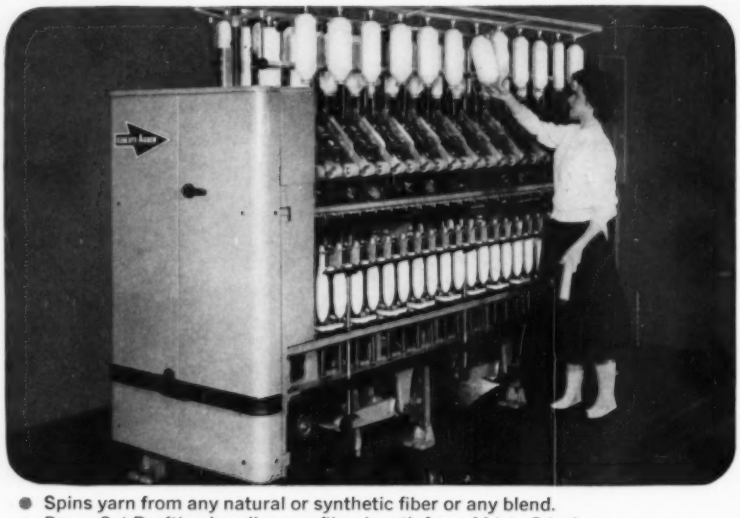
ARROW WM-2 LONG FIBER SPINNING FRAMES OFFER WIDEST YARN MAKING VERSATILITY

A dynamic program of new product design, advanced styling and aggressive merchandising is underway by all segments of the Textile Industry.

Knitting yarns of higher quality and greater interest are being called for in worsted, synthetics and blends. Finer weaving yarns up to 2 ply 80's are being called for and a great many blends are currently being explored. The longer fibers are in wide demand and the next few years should see a substantial boom in this field.

The demand for high bulk knitting yarns and the finer weaving yarns plus all of the newer fabric effects being created require fiber lengths from 3 to 8 inches long.

ARROW WM-2 frames are suitable for making yarns in any fiber length from 1½ to 8 inches. They provide great versatility in handling 100% synthetics, blends of synthetics, 100% worsteds and blends of worsted with synthetics in this range. Better quality yarns with greater evenness, bigger package sizes and higher production speeds are produced on ARROW frames.



- Spins yarn from any natural or synthetic fiber or any blend.
- PermaSet Drafting handles any fiber length from 1½ to 8 inches
- No roll setting changes needed at any time
- Great versatility for changing yarn numbers, twist, draft, ring size, and spindle speed
- Drafts as high as 24 on worsted, 60 on synthetic
- Produces yarn with better evenness and greater breaking strength
- Ball bearing top and bottom rolls eliminate all lubrication in drafting zone
- Almost ideal spinning conditions from delivery roll to spindle
- Runs at higher front roll, traveler and spindle speeds
- Reduces ends down by more than 50%
- Puts twice as much yarn on the bobbin as older frames
- 12-inch bobbins reduce winding costs
- Very rugged, most durable machine ever built for yarn spinning
- Frame is built in the wide-stance 36-inch width
- Uses ball bearings at every moving, turning or oscillating motion
- Substantially lowers electric power consumption
- AeroCreel for single or double roving
- Frame arranged for practical application of overhead cleaning and vacuum floor sweeping

Roberts ShortFlo System for Making Long Fiber Yarns

Roberts Company offers complete technical service in adapting its ShortFlo System for the production of long fiber yarns. This includes the complete yarn manufacturing process starting with tow converters, blending machines, pin drafting, roving frames, spinning frames, winders and twisters.

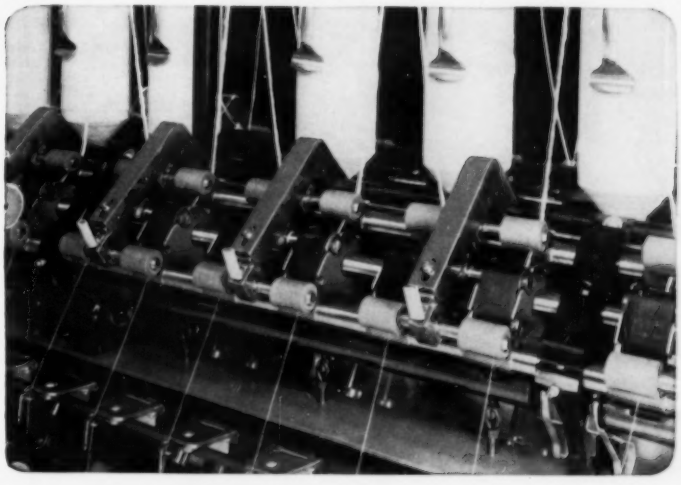
Where mills have existing equipment, full consideration is given to utilizing it whenever possible. Or, if a new long-fiber program is planned, all machinery can be specified, and the complete yarn organization set up.

The ShortFlo System for making long fiber yarns requires a minimum number of processes. Many doublings are provided to insure exceptionally good blending of fibers, improved evenness and better strength.

THE MOST SENSIBLE ANSWER TO GADGET-FREE TOP ROLL SUSPENSION

ROBERTS *PosiWate* SUSPENSION SYSTEM

PosiWate Ball Bearing Top Roll Suspension eliminates all cap bars and the need for top roll oiling. All three lines of top rolls have double-row ball bearings; heavier weighting can be handled when required. Weight distribution is positive. Hooks, short springs and other gadgets are not used. Roberts Ball Bearing Bottom Rolls with EvenGrip Fluting are also available.

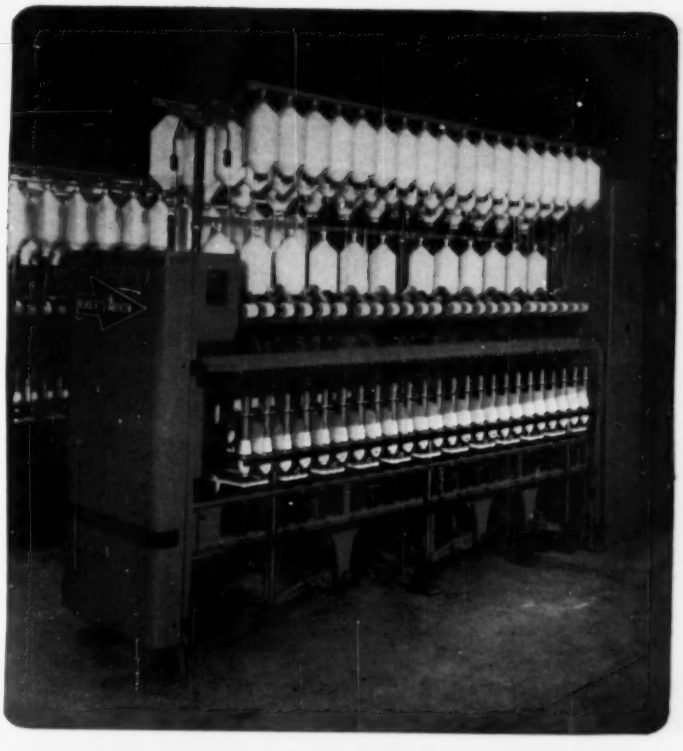


A FEATURE OF

ROBERTS ARROW

MODEL M-1

and changeover modernization for any make of frame



ARROW M-1 SPINNING FRAMES

for cotton and for synthetics 1½ to 3¼ inches long

PosiWate Top Roll Suspension

UnaRing Balloon Control

EvenGrip Fluted Bottom Rolls

Roberts Supreme Ball Bearing Spindles

Double-Apron High Draft System

UnitVac Power-Suction Cleaning

Roberts All-Ball-Bearing Head

Unitized Sectional Frame

AeroCreel with Latch-Type Bobbin Holders

In Mexico, write direct to:

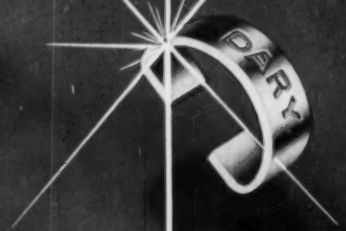
Roberts Co. de Mexico, S.A.
Avenida Reforma 915A
Puebla, Pue.

ROBERTS COMPANY

SANFORD, NORTH CAROLINA

Since 1898

Dary Ring Travelers...



THE DARY RING TRAVELER CO.

TAUNTON, MASSACHUSETTS

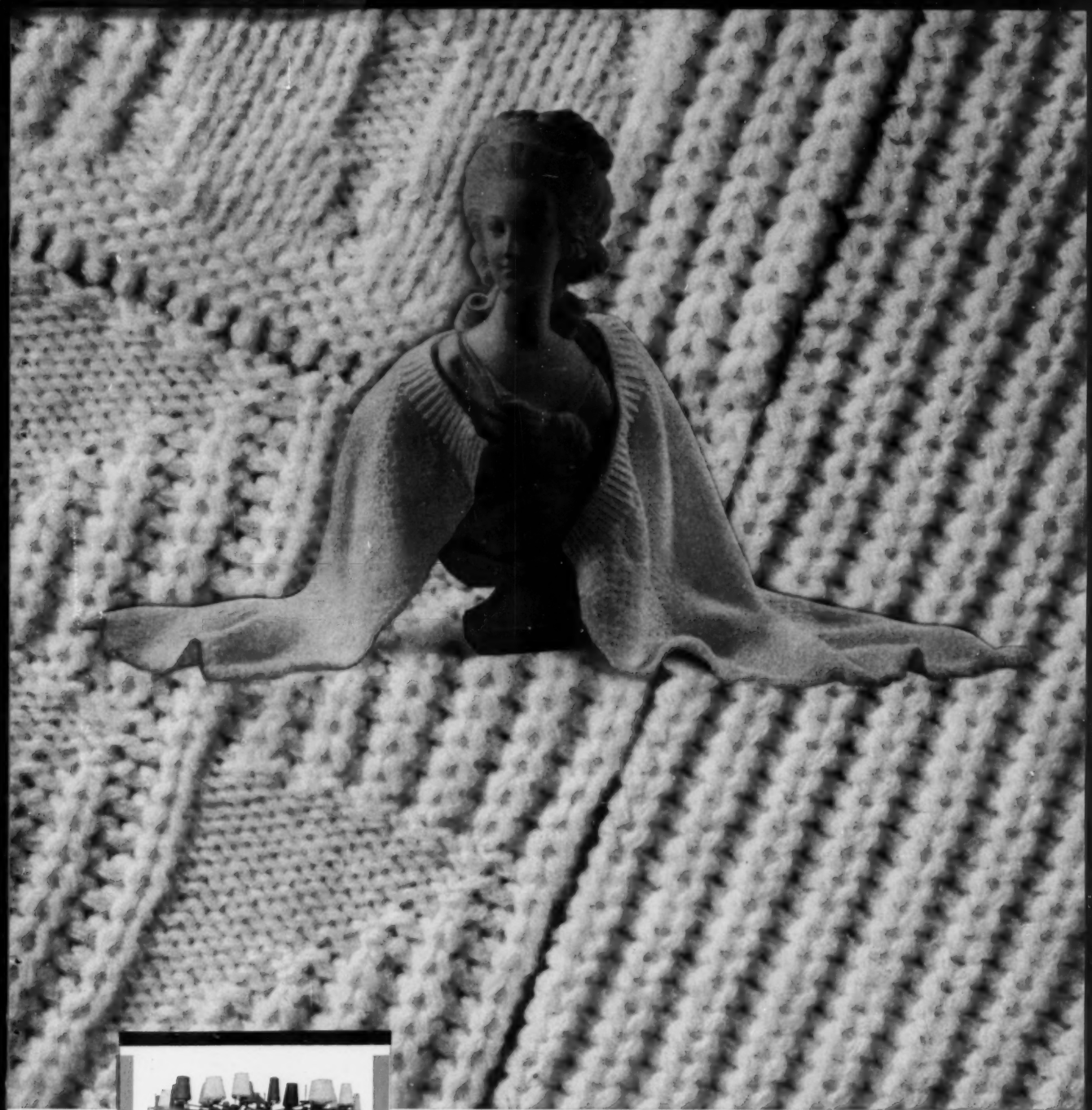
LINDSEY I. PHILLIPS, Treasurer, Taunton, Mass.

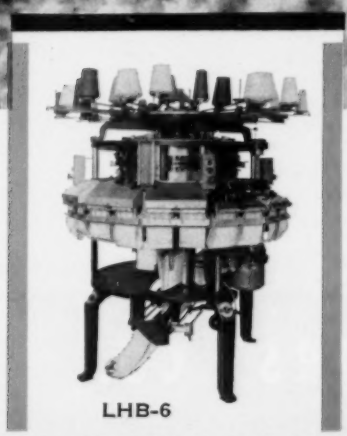
Consult your friendly Dary Representative:

JOHN H. O'NEILL . . . . . Box 720, Atlanta, Ga.

JAMES H. CARVER . . . . . Box 22, Rutherfordton, N. C.

CRAWFORD "JACK" RHYMER Box 2261, Greenville, S. C.





LHB-6

Traditional quality . . .

Now the LHB-6 offers quality "Bulky knits" in 3 or 4 cut 30" diameter with all the versatile features of the LH-6. A machine designed especially for "bulky knit" fabrics with a wide range of pattern possibilities including half cardigan, links and links, jersey, reverse jersey or in a variety of combinations with panels, self designs, tuck effects and other fancy stitches all with various rib cuffs.

WILDMAN JACQUARD

WILDMAN JACQUARD CO. • 1210 Stanbridge Street • Norristown, Pennsylvania • Manufacturers of HEMPHILL BANNER Knitting Machines

A subsidiary of Draper Corporation, Hopedale, Mass.

CIRCLE 15 ON READER SERVICE CARD

LARGE Schlafhorst AUTOCOPSER

INSTALLATIONS ARE CONTINUING TO SPREAD

INTO EVERY TEXTILE COMMUNITY PRODUCING **BETTER QUALITY** AT A **LOWER COST PER POUND**

Marysville, N. B.
Montreal, Que.
Valleyfield, Que.
Welland, Ont.
Lewiston, Maine
East Taunton, Mass.
Moosup, Conn.
Halifax, Va.
Danville, Va.
Raleigh, N. C.
Swepsonville, N. C.
Burlington, N. C.
Kernersville, N. C.
Greensboro, N. C.
Charlotte, N. C.
Rockingham, N. C.
Shelby, N. C.
Cliffside, N. C.
Rutherfordton, N. C.
Kingsport, Tenn.
Buffalo, S. C.
Union, S. C.
Whitmire, S. C.

Great Falls, S. C.
Cheraw, S. C.
Spartanburg, S. C.
Greer, S. C.
Greater Greenville, S. C. Area
Anderson, S. C.
Laurens, S. C.
Lyman, S. C.
Bath, S. C.
Milledgeville, Ga.
Thomaston, Ga.
Dublin, Ga.
Cedartown, Ga.
Alexander City, Ala.
Denison, Texas

Imported by

AMERICAN SCHLAFHORST CO.

Sold and Serviced by

THE TERRELL MACHINE CO., INC.

CHARLOTTE, N. C.

American Thread Co., New York, N. Y., will spend about $3½-million on an improvement program next year. The company will also consolidate some of its facilities. The Newnan, Ga., mill will discontinue operations sometime after the first of next year. Equipment will be improved at the company's mills in Willimantic, Conn., Sevier, N. C., Clover, S. C., Dalton, Ga., and Tallapoosa, Ga.

Barringer Knitting Mills, Inc., Philadelphia, Pa., has leased 82,000 sq. ft. of space at 1215 Glenwood Ave. in Philadelphia and will move to these new quarters.

Beddington Hosiery Mill, Inc., Hickory, N. C., has moved into a new two-story, 15,500-sq.-ft. building.

Cartersville Dyeing & Finishing, Inc., Cartersville, Ga., is a newly formed company with Paul Smith of Calhoun, Ga., as head of the firm. The company will occupy the buildings formerly owned by Kingston Mills. Cartersville will do commission scouring and dyeing of wool and other fibers.

Cone Mills Corp., Greensboro, N. C., will start a million-dollar expansion program at its Carlisle Finishing Co., Carlisle, S. C.

Continental Hosiery Co., Henderson, N. C., has been sold to Glenn W. Powers, W. D. Cox, Jr., and R. D. Williams. Mr. Powers is president.

Cross Cotton Mill Co., Marion, N. C., is installing an additional opening line of equipment and adding machinery in the picker room.

Deering Milliken Research Corp., Spartanburg, S. C., has established a separate division for Belfast fabrics. It will be headed by George Cocoros.

Dominion Textile Co. Ltd., Montreal, Que., has bought machinery and equipment from Canadian Cottons Ltd. Purchases include machinery in the discontinued wool-cloth mills at Almonote, Ont., a yarn mill at St. John, N. B., and a yarn and denim mill in Hamilton, Ont.

Dunbar Combing Co., Inc., Woonsocket, R. I., is a newly formed subsidiary of Barre Wool Combing Co. Ltd. of Barre, Mass. Dunbar has taken over control of the combing division of Verdun Mfg. Co. in Woonsocket.

Fair Haven Mills, Inc., Fair Haven, Vt., will build a dyehouse at its new plant in Pickens, S. C.

Hanes Hosiery Mills Co., Winston-Salem, N. C., has completed air conditioning the preboarding department, dyehouse, final boarding department, and stock room at a cost of $500,000.

Hardwick & Magee Co., Philadelphia, Pa., has discontinued operations of its carpet-yarn-spinning mill in Philadelphia.

Harris-Marshall Hosiery Mills, Galax, Va., has started building a 20,000-sq.-ft. addition for the production of seamless nylon stockings. Installation of 200 additional knitting machines is scheduled for late this year.

Indian Head Mills, Spartanburg, S. C., has assumed full control and responsibility for the operations of Palmetto Bonded Warehouse in Spartanburg.

Jefferies Processors, Inc., Albemarle, N. C., will build a subsidiary plant in Albemarle with initial employment of about 40 persons.

La France Industries, Inc., New York, N. Y., has sold its La France, S. C., plant to Henry A. Hafner & Associates.

National Spinning Co., Washington, N. C., is building a $1½-million plant near Whiteville, N. C.

Norris Cotton Mills Co., Inc., Cateechee, S. C., has been sold to Woodside Mills, Greenville, S. C., for $2-million.

Pama Mfg., Inc., Gastonia, N. C., is a newly formed tricot-knitting firm. It has leased the Wisteria Hosiery Mill building in Gastonia.

J. P. Stevens & Co., Inc., New York, N. Y., has bought Angle Silk Mills, Inc., Rocky Mount, Va. Angle Silk Mills will operate as a subsidiary. Stevens has also bought the vacant Pee Dee Mill No. 2, Rockingham, N. C. The enlargement in progress at the company's Utica Mohawk plant near Clemson, S. C., will cost about $2 million. The expansion consists of building additions and installing new equipment.

Swift Mfg. Co., Columbus, Ga., expects to spend about $1-million for plant modernization and expansion in the next 18 months.

Ultra Dyeing & Finishing Co., Inc., Beacon, N. Y., is a newly formed firm operating in the plant formerly occupied by Cold Spring Dye & Processing Corp.

United Piece Dye Works, New York, N. Y., has completed negotiations for a new plant in Bluefield, Va. The plant will be equipped initially with machinery reserved from the liquidation of the company's Lodi, N. J., plant.

Vanity Fair Mills, Inc., Reading, Pa., has announced an agreement with E. Lucas & Co. Pty. Ltd. of Australia for the exclusive rights to manufacture Vanity Fair lingerie in Australia. The lingerie will be merchandised under the Lucas-Vanity Fair Label.

Wakeford Mills, Inc., Central Falls, R. I., is moving to Pawtucket, R. I.

West Georgia Mills, Inc., Whitesburg, Ga., is building a 6,000-sq.-ft. addition to its plant to house 70 additional braiders.

Yanceyville Knitting Mills, Inc., Yanceyville, N. C., plans an expansion program that includes the installation of 32 new knitting machines and a 2,800-sq.-ft. addition. The mill now employs 22 persons but will add 10 more persons when the expansion is completed.

←CIRCLE 16 ON READER SERVICE CARD

CALENDAR

October

Textile Quality Control Association, fall meeting, Grove Park Inn, Asheville, N. C., Oct. 1 & 2

Textile Operating Executives of Georgia, fall meeting (slashing and weaving), Hightower Textile Building, Georgia Institute of Technology, Atlanta, Ga., Oct. 3

Chemical-Finishing Conference, sponsored by the National Cotton Council, Mayflower Hotel, Washington, D. C., Oct. 7

N. C. Textile Manufacturers Association, annual convention, Carolina Hotel, Pinehurst, N. C., Oct. 8 & 9

Southern Textile Methods & Standards Association, fall meeting, Clemson House, Clemson, S. C., Oct. 8 & 9

AATCC, annual convention, Sheraton-Park and Shoreham Hotels, Washington, D. C., Oct. 8 to 10

Alabama Textile Operating Executives, fall general meeting on carding and spinning problems, Langdon Hall, Auburn, Ala., Oct. 10

Southern Textile Overseers Association, fall meeting, Greenville, S. C., Oct. 10

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., Oct. 14

Textile Education Foundation, Inc., annual meeting, A. French Textile School, Georgia Institute of Technology, Atlanta, Ga., Oct. 17

47th Annual National Safety Congress & Exposition, sessions on industrial safety scheduled for the Conrad Hilton, Congress, Sheraton, Morrison, and La Salle Hotels, Chicago, Ill., Oct. 19 to 23

ASME-ASLE Lubrication Conference, Sheraton-McAlpin Hotel, New York, N. Y., Oct. 20 to 22

Institute of Textile Technology, Technical Advisory Committee and Board of Trustees, fall meeting, Charlottesville, Va., Oct. 27 & 28

November

AATT, Della Robbia Room, Hotel Vanderbilt, New York, N. Y., Nov. 4

Narrow Fabrics Institute, annual meeting, Hotel Biltmore, New York, N. Y., Nov. 9 & 10

Packaging Machinery Manufacturers Institute Show, New York Coliseum, New York, N. Y., Nov. 17 to 20

27th Exposition of Chemical Industries, New York Coliseum, New York, N. Y., Nov. 30 to Dec. 4

December

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., Dec. 2

AATCC, Northern New England Section, joint symposium with ASME Textile Engineering Div., Smith House, Cambridge, Mass., Dec. 4

1960

January

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., Jan. 6

Plant Maintenance & Engineering Show, Convention Hall, Philadelphia, Pa., Jan. 25 to 28

February

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., Feb. 3

American Society for Quality Control, Textile Div., annual conference, Clemson House, Clemson, S. C., Feb. 18 & 19

March

Fiber Society, spring meeting, Roosevelt Hotel, New Orleans, La., March 10 & 11

April

American Cotton Manufacturers Institute, annual meeting, Americana Hotel, Bal Harbour, Miami Beach, Fla., April 7 to 9

Underwear Institute, annual meeting, Hotel Biltmore, New York, N. Y., April 29

May

American Textile Machinery Exhibition, Atlantic City, N. J., May 23 to 27

11th Annual Cotton Research Clinic, Grove Park Inn, Asheville, N. C., May 31 to June 2

June

Southern Textile Association, annual convention, Grove Park Inn, Asheville, N. C., June 23 to 25

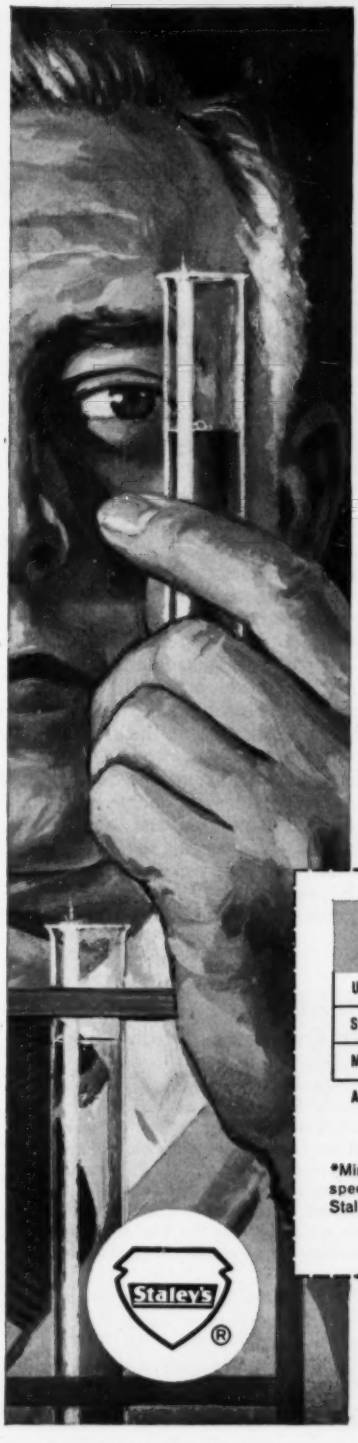
October

21st Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 3 to 7

AATCC, national convention, Sheraton Hotel, Philadelphia, Pa., Oct. 6 to 8

New Fundamental Chemical Discovery Creates A

BETTER SIZE FOR SYNTHETICS



New noncongealing Mira-Film Acetate Gum—developed especially for synthetics—gives noticeably superior adhesion. Forms clear, tough, flexible film that reduces warp stops, shedding, fuzz balls. As much as 2% better weaving efficiency demonstrated in actual mill tests!

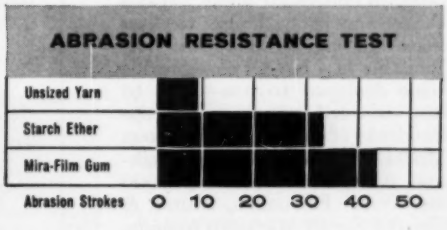
Now, after over two years of intensive research, the A. E. Staley Mfg. Co. announces a new concept in the sizing of acetate, viscose, and other man-made fibers—through the use of Mira-Film Acetate Gum. Made by an exclusive process, so unique that a basic process patent has been applied for, Mira-Film is available in a *complete* range of viscosities.*

Mira-Film is particularly outstanding in applications with spun synthetics and their blends. For example, its chemical affinity for acetate yarns results in noticeably superior adhesion. And Mira-Film forms a tough, flexible film with increased abrasion resistance. Mill tests on a 90/10 Viscose/Acetate blend produced a 1% to 2% improvement in weaving efficiency.

More effective protection greatly improves weaving efficiency. Reduces breakage, shedding, fuzz balls and matting on drop wires . . . virtually eliminates thin spots. Cuts costly down-time.

Staley's exclusive development sets a new high, too, in uniformity . . . permits a degree of process control heretofore unattainable. Thus, Mira-Film Gum has minimum variation in viscosity or other physical properties, from bag to bag or from carload to carload.

Why not get all the facts about new Mira-Film Gum? For further information, see your Staley Textile Representative at the branch office nearest you or write today to: A. E. Staley Mfg. Co., Decatur, Ill.



*Mira-Film is one of a series of new products with a broad spectrum of characteristics, made possible by this new Staley development.

Compare The New Mira-Film Gum With Your Present Starch Size!

1. Completely noncongealing
2. Lower pasting temperature
3. Can be used at lower size box temperatures (120° F)
4. Paste is long and stringy
5. Faster cooking—only 30 minutes required at normal concentration
6. Requires wax additive only
7. Can be made in a full range of viscosities

A. E. STALEY MFG. CO., DECATUR, ILL.

Branch Offices: Atlanta • Boston • Chicago • Cleveland • Kansas City
New York • Philadelphia • San Francisco • St. Louis

NEW FAIRBANKS-MORSE

Portable Platform Scale

MODERN FUNCTIONAL STYLING

- **reads quickly and clearly under all lighting conditions!**
- **moves easily through narrower aisles!**
- **stays accurate and sensitive under roughest conditions!**

Designed for your most exacting requirements—built for years of heavy-duty use—this new Fairbanks-Morse Model 1124A Portable Platform Scale helps speed your operations through faster, more accurate weighing!

Note the big, clear beam design that promotes quicker reading—the new square weights for easier handling! Check the new concealed wheels, the compact overall width—important for fast handling in congested areas. Notice the absence of check rods, to eliminate binding. From top to bottom this is a handsome, durable scale designed to use—built to last—a worthy successor to the hundreds of thousands of famous Model 1124 Scales proven throughout industry! Capacity 1000 lbs. Write Fairbanks, Morse & Co., 600 South Michigan Avenue, Chicago 5, Illinois, for new Model 1124A Catalog.

See Sweet's Plant Engineering File for full line of F-M Scales.

FAIRBANKS-MORSE

a name worth remembering when you want the BEST

SCALES • PUMPS • DIESEL, DUAL FUEL AND GAS ENGINES • ELECTRIC MOTORS
GENERATORS • COMPRESSORS • MAGNETOS • HOME WATER SYSTEMS

QUESTIONS & ANSWERS

Do you need help on a technical problem? TEXTILE WORLD is at your service in helping solve problems in yarn manufacturing, weaving, knitting, dyeing, finishing, and other textile operations. A large staff of mill men, consultants, and other experts are available for authoritative answers. Send your problem to the Editor, Questions and Answers, TEXTILE WORLD, 201 E. Coffee St., Greenville, S. C.

Picker Beaters Vary From Mill to Mill

Technical Editor:

What is the best kind of beater to use in one-process pickers for cleaning cotton? (1459)

The answer depends upon the type of picker and the grade of cotton used. Many mills use two-blade breaker beaters and Kirschner carding beaters where the picker has two beater sections. Others use carding beaters in both sections.

For three-beater pickers, some mills use three-blade beaters in the back, two-blade beaters in the middle, and Kirschner beaters in the front. You can find different arrangements of beaters and different speeds in nearly every mill you visit. Some mills even use odd-shape bars and lags on the beaters. We suggest that you experiment with your pickers until you find the right beater for your particular cotton.

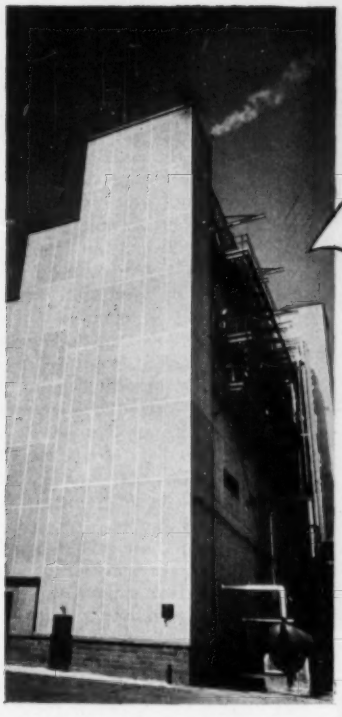
Check Dyes and Mercerizing To Overcome Shaded Edges

Technical Editor:

We have shading across the width of heavy 55- and 59-in. mercerized cotton when we dye it on jigs or the pad-roll machine. The selvages are almost invariably darker than the center. The same fault occurs on rayon linings and 36-in. unmercerized cotton but to a lesser extent. We do not think that the trouble lies in preparation. Have you any suggestions? (1457)

This trouble is common in dyehouses, and the causes are several and often obscure.

One of the primary causes of side-to-center shading is temperature differences between the selvages and the



Vitel

*means "Freedom"**

They're calling it "Independence Hall"—the Point Pleasant plant in Apple Grove, West Virginia, where Goodyear makes VITEL, newest of polyester resins. Dedicated to the proposition that *we're* in the chemical business and *you're* in the textile business. That's why Goodyear makes only the resin—does not spin the fiber. Right now, Beaunit Mills, Inc., Fibers Division, is spinning VITEL resin into VYCRON fiber—offering you these important properties:

- *Exceptional yarn strength—good fiber-to-fiber cohesion.*
- *Outstanding dyeability and colorfastness.*
- *Excellent wrinkle resistance—ideal for wash-and-wear.*
- *Easy processability on standard milling systems.*

For full details, write: GOODYEAR, CHEMICAL DIVISION, DEPT. J-9433, AKRON 16, OHIO

GOODYEAR

CHEMICAL DIVISION

Vitel—T.M. The Goodyear Tire & Rubber Company, Akron, Ohio

Vycron—T.M. Beaunit Mills, Inc., Fibers Division

*NEW FREEDOM TO WEAVE A WIDER RANGE OF WONDER FABRICS

Tennant-maintained floor in carding department of a large southern mill

Only the TENNANT System can keep your floors this clean

Chances are that your floors *can* look like this the year around . . . *if* you use the TENNANT SYSTEM.

And your maintenance costs will usually run less per year!

Floor seals last longer. Newly-developed TENNANT Floor Seals, specially designed for textile mills, last longer than any comparable materials we know of. This ends need for frequent recoating and reduces annual maintenance costs.

Makes floors easier to clean. The exclusive TENNANT process *actually increases dirt-resistance of the average textile mill floor by 300%.* Soilage wipes off easily . . . in a fraction of the usual time.

Keeps floors bright. The TENNANT SYSTEM's exclusive cleaning techniques make it easy to keep your floor attractive month-after-month . . . even under heavy traffic.

You'll also enjoy added benefits in improved safety and employee efficiency when your mill is a bright, pleasant place to work in.

Your TENNANT Man is a qualified floor expert, ready to give free estimate of savings possible in *your* mill. For full information, write G. H. Tennant Co., 727L N. Lilac Drive, Minneapolis 22, Minn.

TENNANT

The Textile Industry's Most Widely Used

FLOOR MAINTENANCE SYSTEM

Methods

Machines

Materials

FLOOR MAINTENANCE SYSTEMS

center of the goods, but this is probably not your trouble if you have shading in a pad-roll application.

That leaves two principal possible causes: one is that in mercerizing you are getting uneven washing, particularly at the edges of the cloth, or you are not getting completely bottomed fabric in your preparation operation. The other possible cause is the variation in exhaustion rates of dyes at different temperatures. This fact should be minimized in the pad-roll machine or in covered jigs, but it is still possible that this effect is causing some of your trouble.

We assume that in any padding operation your squeeze is even all across the width of the goods. Since you seem to have the most trouble with the wide heavy mercerized fabrics, make a thorough examination of your washing processes on the mercerizer and check the caustic content of your fabrics at each selvage and at the center immediately after the goods leave the tenter. If there is any appreciable variation between the selvage and center caustic content, there is bound to be a difference in dye receptivity between these areas.

How To Change Looms From Cotton to Spun Rayon

Technical Editor:

We are planning to change a large number of looms from cotton to spun rayon. Can you give us an outline as to the most efficient way to make the change? (1456)

In changing looms from cotton to spun-rayon fabrics, make these nine loom-setting changes:

1. Remove the drag-roll equipment and set the whiproll cam to vibrate the whiproll when the lay is at front center.
2. Remove as much power as possible from the picker sticks.
3. Level the harnesses on print cloths at front center.
4. Level the harnesses on gabardines, twills, and other multiharness materials from 1¼ ins. before the fell of the cloth.
5. Adjust the warp stop motion so that the drop wires walk ¼ to ½ in. The amount of walking depends on the weight of the construction and the amount of lint shed.
6. On plain weaves or fine work, have a level warp line from the whiproll to the breastbeam.
7. Use padded shuttle eyes on all yarns above 14s. On coarser yarns, use regular cotton-type shuttle eyes.
8. Place fur in the shuttle the full length of the shuttle.
9. Use rayon-type temples and temple rolls.

CONTINUED ON PAGE 152

Spartan Mills leads with NEWEST in Frame Cleaning

To keep more frames cleaner than ever before, Spartan Mills is first with the newest combination for cleaning:

1 BAHNSON CROSS-JET CLEANER

- Flexible trunks for each side of frame clean creel, drafting system, and frame. Multiple air nozzles in trunks provide total frame cleaning.
- High air handling capacity with adjustable air volume for each area of frame.
- Oscillating air outlets provide 180° overhead cleaning, plus track and conductor bar cleaning.

2 BAHNSON VERT-I-RAIL TRACK

- First modern creel-mounted, single rail I-beam track offered for frame cleaners.
- Wider surface for wheel contact results in minimum track wear, maximum track life.
- Shielded conductors are open at top and bottom for easier air cleaning and maintenance.

Bahnson **AIR-O-MATION**

AIR AT WORK FOR INCREASED PROFITS

THE BAHNSON COMPANY, WINSTON-SALEM, N. C.

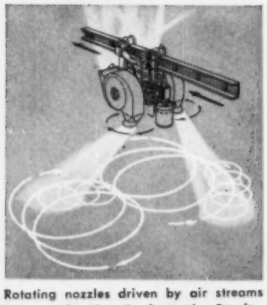
Amco Heliclone Loom Cleaner in Mayfair Mills, Arcadia, S. C.

Always "Working For Quality" at MAYFAIR MILLS...

AMCO HELICLONE® LOOM CLEANERS

Amco Heliclone Loom Cleaners, which provide automatic, continuous cleaning of 1676 looms at Mayfair Mills, are helping this famous manufacturer maintain his reputation for superb quality and top efficiency.

For the complete money-saving facts about Amco Loom Cleaners, call the American Moistening Company — an organization with more than 70 years' experience serving the textile field.



Rotating nozzles driven by air streams form overlapping circular paths. Results: high velocity bursts of air over loom and warp surfaces for best cleaning. Supplementary outlets clean track and ceiling.

AMCO

Since 1888

Air Conditioning Equipment — Textile Specialties

American Moistening Company, Cleveland, North Carolina

Branches: Atlanta, Ga., Providence, R. I., Toronto, Ont.

Cleveland-Rowan Plant of American Moistening Company. This modern plant is located at Cleveland, N. C. for the fabrication of duct work and sheet metal products.

ND FACTS

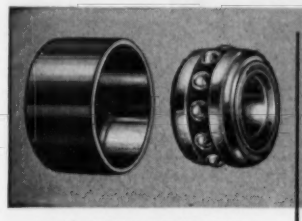
HERE'S NEW DEPARTURE'S COMPLETE LINE OF SEALED BALL BEARINGS FOR TEXTILE MACHINERY

New Departure textile bearings are made with integral closures to prevent leakage of lubricant and contamination of goods. All are smooth running, low friction ball bearings permitting higher speeds for faster production—longer service life.

Many are lubricated and sealed for life. Others use New Departure's Injection-Relubrication system. This permits revitalization of bearing lubricant for increased bearing life.

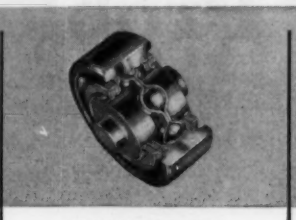
Write for full information on New Departure textile ball bearings, or call your New Departure sales engineer. Naturally, there's no obligation.

SEND FOR TEXTILE BALL-BEARING CATALOG TEX-1, NEW DEPARTURE, BRISTOL, CONN.



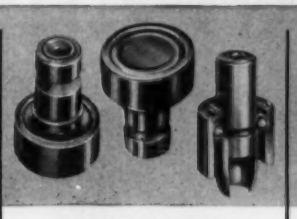
SPINDLE BEARINGS

. . . Cylindrical outer race permits removal of spindle from bolster without removing bolster from rail. Used for step bearings, but also used in high-speed spindle applications.



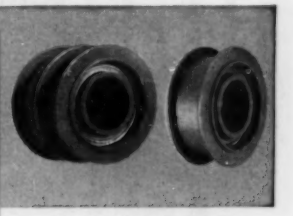
TREADLE ROLL BEARINGS

. . . permanently lubricated for long service. Designed to eliminate sparking. Double seals prevent leakage of lubricant, keep out dirt and lint.



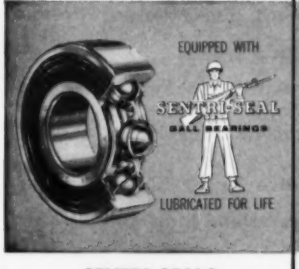
TENSION PULLEY BEARINGS

. . . available for both vertical mounting of idler or tension pulleys or horizontal mounting of tape tension pulleys.



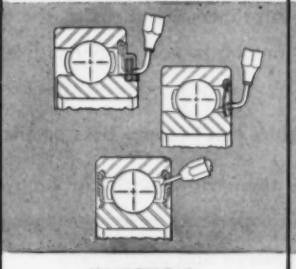
SHEAVE BEARINGS

. . . for automatic looms. Self-sealing assures protection for textiles, eliminates relubrication problem. Designed to permit nesting in gangs on harness sheave supporting shaft.



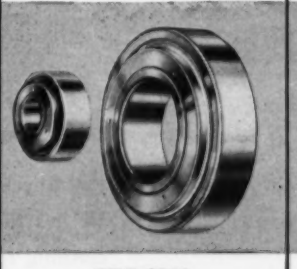
SENTRI-SEALS

. . . keep lubricant *in*, seal *out* dust, dirt and moisture for life. Sentri-Seals are synthetic rubber with spring steel rings molded in. Available in a wide variety of ball bearings.



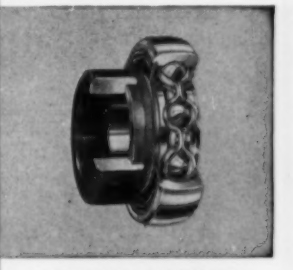
INJECTION-RELUBRICATION SYSTEM

Hollow needle and metering oiler extend grease life in bearings for many months in high-speed, long-service applications.



FELT SEAL

. . . annular ball bearings are protected from dirt, retain lubricant by integral felt closures. Complete line from 5mm. to 2¼" bore. Relubricated by injection-relubrication.



ADAPTER BEARINGS

. . . easily applied to shafts; positive lock. Pre-lubricated, sealed. For moderate loads and speeds. Spherical or cylindrical O.D. for shafts ½" to 2 15/16" dia.

Replacement ball bearings available through United Motors System and its Independent Bearing Distributors

NEW DEPARTURE

DIVISION OF GENERAL MOTORS, BRISTOL, CONN.

NOTHING ROLLS LIKE A BALL

What is YOUR Carding Problem?

It's not so much the **BIG** problems in the card room we're asking about. They're quickly recognized and get immediate attention.

But it's the pesky little ones . . . those that cause only occasional trouble. You're more apt to put them off "for a little while," and yet they are eating up useful production time.

It could be a little slippage on the roll,
or improper alignment of the teeth, due to jambs,
or points not properly ground,
or the need for a *special* clothing for synthetic fibres.

Little troubles can become **BIG** problems in time.

Check them *now*, with the help of a Tuffer Sales Engineer. He has the experience of over 90 years behind him—in both card clothing research and production.

Call or Write to Our Home Office
for Immediate Attention—No Obligation

TUFFER PRODUCTS

- Card Clothing for Woolen, Worsted, Cotton, Asbestos and Man-made Fibers
- Napper Clothing and Brushes
- Top Flats re-covered and extra sets loaned at all Plants
- Lickerins rewired at Southern Plants
- Hand Stripping Cards

HOWARD BROS.

WORCESTER 8, MASSACHUSETTS
Southern Plants: Atlanta, Ga., Gastonia, N. C., Greenville, S. C.
Direct Representation in Canada

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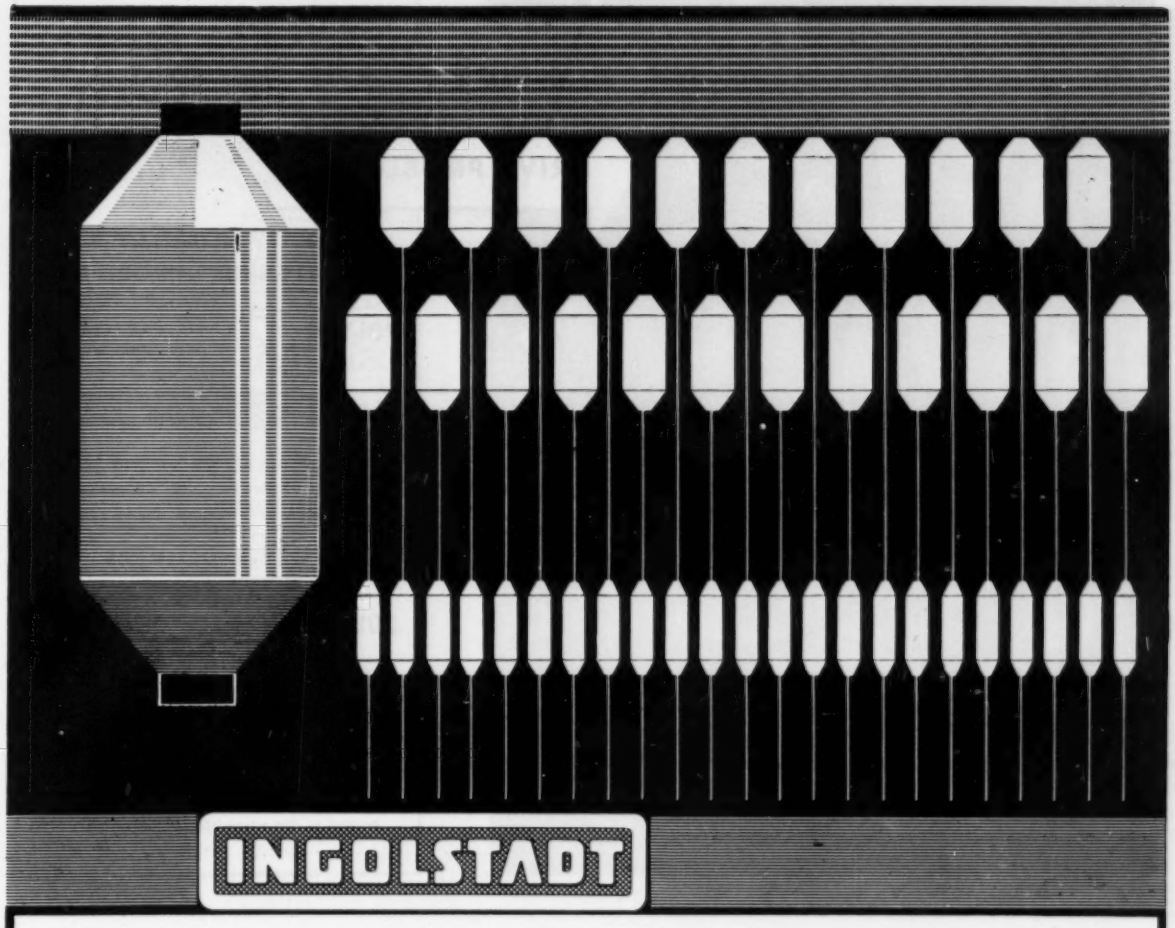
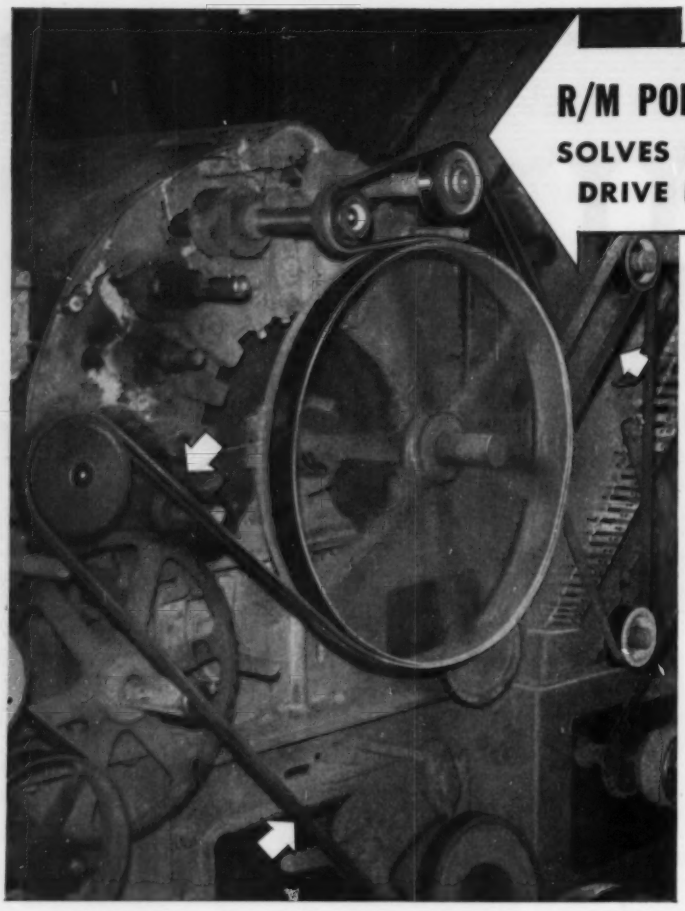


Planning and supply

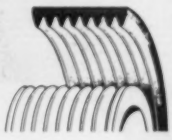
of complete spinning plants for cotton, worsted,

artificial and synthetic staple fibres

DEUTSCHER SPINNEREIMASCHINENBAU INGOLSTADT/*Donau*



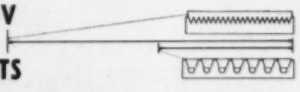
R/M POLY-V® DRIVE SOLVES SERPENTINE DRIVE PROBLEMS



POLY-V ELIMINATES "MATCHING" PROBLEM

The Poly-V Belt is a SINGLE UNIT across full width of sheave—NOT an assembly of SEVERAL V-BELTS.

POLY-V DELIVERS MORE POWER



Poly-V increases the drive capacity 30% to 50% (more in many cases) in the same space as standard V-belt drives.

NO OTHER belt drive delivers more power in the same space than Poly-V !

R/M POLY-V® DRIVE . . . "MORE USE PER DOLLAR"

V-belt slip caused excessive belt wear and frequent belt replacement on the serpentine drive of the Garnet cotton felt machine pictured above. Installation of R/M Poly-V Drive eliminated the slipping problem . . . and increased belt drive service from an average of 3 months to over a year without replacement or loss in tension.

Major causes of drive trouble are engineered *out* of R/M's patented, new Poly-V Drive. Poly-V's unique single unit belt design eliminates "length matching" problems and downtime for belt replacements. Belt speed ratio and position remain constant from no load to full to run smoother *and* cooler—with less wear on belt and sheaves! And because Poly-V belts have *twice* the tractive surface of ordinary multiple V-belts, a Poly-V Drive can deliver up to 50% *more* power in the *same* space as a multiple-belt drive . . . or *equal* power in as little as ⅔ the space!

Just two cross sections of Poly-V belt meet *every* heavy duty power requirement. Let an R/M representative show you how the proper Poly-V* Drive for your application can add up to longer, trouble-free drive service . . . "More Use per Dollar." Write for Bulletin M141.

*Poly-V is a registered Raybestos-Manhattan trademark.

Condor Endless Belts

Condor Whipcord Belts have outlasted as many as 10 ordinary belts on the toughest drives—drives with short centers and small take-ups, small pulleys and reverse bends. For closed drives where fasteners are required, Condor Compensated Belt equalizes belt ply stresses to eliminate ply rupture and separation—holds fasteners up to 4 times longer than ordinary belts. Both are available in a selection of drive surfaces to meet your machine tension requirements.

RM 836

BELTS • HOSE • ROLL COVERINGS • TANK LININGS • INDUSTRIAL RUBBER SPECIALTIES

MANHATTAN RUBBER DIVISION — PASSAIC, NEW JERSEY

RAYBESTOS-MANHATTAN, INC.

Other R/M products: Abrasive and Diamond Whee.s • Brake Blocks and Linings • Clutch Facings • Asbestos Textiles • Mechanical Packings • Engineered Plastics • Sintered Metal Products • Industrial Adhesives • Laundry Pads and Covers • Bowling Balls

Ends Down?
Chafed Yarns?
Broken Filaments?
Starting Up Troubles?

END COSTLY DOWNTIME with NEW K-15 SILICONE WARP SPRAY

5½ OZ. PRESSURE CANS, $1.40 EACH. ORDERED IN 24-CAN CASE LOTS, $1.25 EACH.

K-15 IS ALSO AVAILABLE IN 55 GAL. DRUMS.

K-15 Silicone Warp Spray puts "muscle" into yarn and helps you whip downtime problems. It's a great conditioner for synthetic blends.

Prevent breakage in starting up with K-15. Prevent end fraying, filament cuts and ends down — especially at selvage — with K-15. Strengthen unsized warps during the tying in process with K-15. Strengthen very fine, soft yarns with K-15.

K-15 is available in pressure spray cans, individually or in 24-can case lots. It may be ordered in regular gallon containers for use with spray guns. Or it may be ordered with a spray gun applicator with CO2 cartridges. In this form, it does not require a compressor or any electrical outlet.

K-15 BINDS SPLIT ENDS AND FILAMENTS TOGETHER
K-15 ADDS LUBRICATION TO YARNS AND KNOTS
K-15 STRENGTHENS AND STIFFENS YARN
K-15 IS EASY TO USE AND DRIES QUICKLY
K-15 IS NON-STAINING AND WASHES OUT IN WARM WATER

ANOTHER TEXTILE FIRST FROM Schmidt SUPERIOR PRODUCTS — SINCE 1908

MFG. CO.

NEW BEDFORD, MASS. • GREENVILLE, S. C.

USTERMATIC

The lady or the tiger

Which would you unveil?

A major breakthrough in weaving technology will be unveiled November 3rd at the Uster Show Rooms in Charlotte, North Carolina.

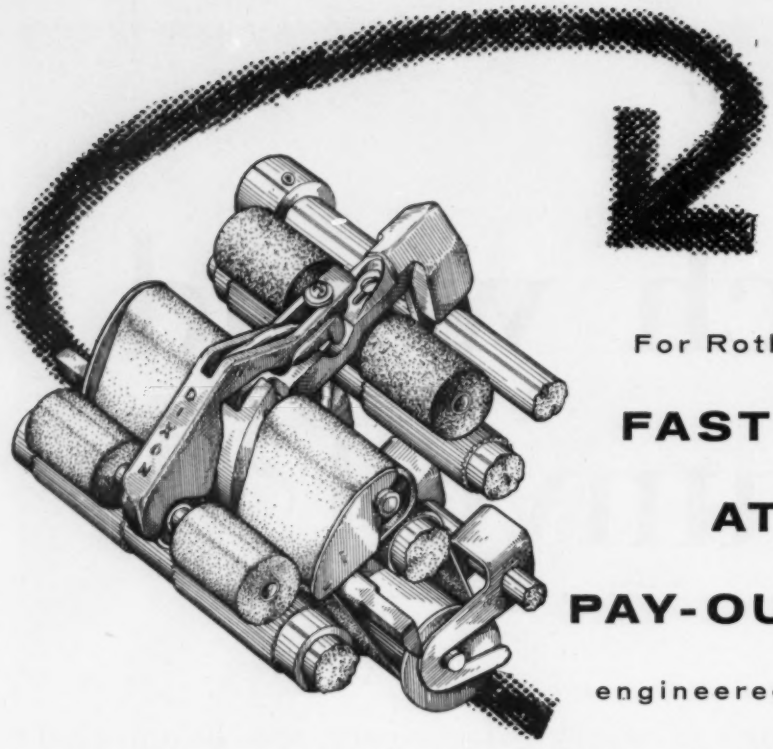
The hopes of decades will become a commercial reality. The name that has been applied to this tiger of the industry is USTERMATIC.

See what this tiger will do. See how USTERMATIC will do it . . . . at the Uster Show Rooms through November.

USTERMATIC

USTER CORPORATION
CHARLOTTE, NORTH CAROLINA

Watch your newspaper, trade papers and television for the USTERMATIC news!

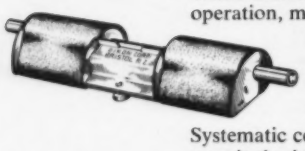


For Roth System Spinning...

FAST PAY-BACK AT MINIMUM PAY-OUT ... with a Dixon engineered changeover plan

Dixon offers the perfect balance of a proven product plus engineering know-how . . . a combination which has produced many fast pay-back changeover plans for spinning mills*. Each Dixon plan is more than just equipment. Our engineers will gear the program to the mill's cash flow, helping to provide major economies on a systematic schedule.

While Dixon Spinning Changeovers are often installed complete in one operation, many mills take advantage of our multi-step changeover program.



On Roth System Frames, the usual plan calls for first adding new middle top rolls, aprons, and cages. Immediate cost-savings result through less lubrication, fewer laps and ends down, reduced cleaning . . . AND LONGER DRAFTS!

Systematic completion of the Double Apron Roth changeover can be made to suit the individual mill. The final Double Apron Roth changeover eliminates all oiling and cap bars, increases drafts, and gives our customers the most competitive spinning efficiency:

- Middle and back rolls run on RULON . . . the oil-free bearing that never is lubricated . . . outwears nylon 12 times.
- The Dixon patented self-aligning front roll rides on a hardened and ground, pre-lubed, sealed, precision ball bearing which is guaranteed for years and years and never requires lubrication.
- All parts are maintenance free. Pay-back on your investment is a matter of months.
- Productivity and quality improve. Yarn is cleaner . . . seconds decrease.

Compare "Pay-Out versus Pay-Back" on *both* Roth System changeovers being offered to the trade and you'll buy Dixon. Ask for our detailed report showing how an actual installation was completely paid for in 25 months and is now saving $1.50 per spindle per year by using Dixon Changeovers.

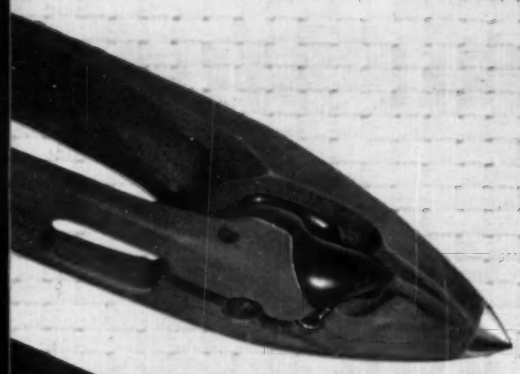
Dixon Corporation, Bristol, Rhode Island. Southern Sales: Dunson & New, Inc., Box 9202, Greensboro, N. C.; Box 321, Greenville, S. C.; Box 445, West Point, Ga.

*Here are a few of the more than 2,000,000 spindles installed:

Mill	Spindles	System
Deering Milliken	121,500	Double Apron Roth
J. P. Stevens	72,800	Double Apron Casablancas
Clinton Cotton Mills	85,612	Double Apron Casablancas
Crompton Highland Mills	10,300	Double Apron Roth
Adelaide Mills	12,122	Double Apron Casablancas

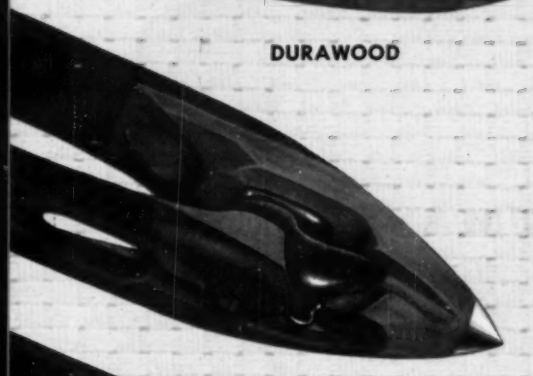
Dixon

Engineered devices for weighting and guiding top rolls since 1876

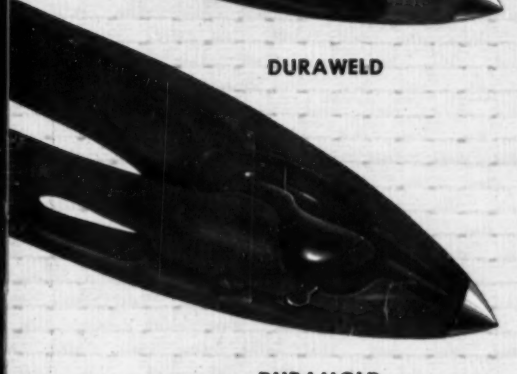


TEMPERED DOGWOOD

DURAWOOD



DURAWELD



DURAMOLD

Southern Quality Shuttles

Cost Less In The Long Run

Southern Shuttles are the answer to demands by textile mill men for longer, trouble-free shuttle life and better quality weaving. Here are examples of Southern's Quality line.

TEMPERED DOGWOOD—The finest natural wood shuttles treated with Southern's exclusive tempering process, making them extremely tough, wear-resistant and stable.

DURAWOOD—Southern's Tempered Dogwood shuttles further improved by an exclusive process of compression under heat. They are longer lasting, fracture-resistant, and slightly denser. They provide 50% greater life expectancy at a very nominal additional cost.

DURAWELD—These shuttles offer 100% longer life expectancy with a very moderate weight increase. Greater strength is assured through use of tempered dogwood end blocks for resiliency and tip retention, permanently bonded by an exclusive Southern method to long wearing wall sections of laminated wood or plastic.

DURAMOLD—Made of Westinghouse Micarta, remarkably strong, grainless molded plastic. Duramold shuttles last 3 to 4 times longer than natural wood shuttles, require less maintenance, reduce down time and weave better cloth. These are absolutely the finest shuttles on the market today.

SOUTHERN has a complete line of shuttles for you to select from—any size, any shape, any type, for any loom. You name it—Southern has it. Many standard sizes are in stock for immediate delivery.

World's largest manufacturer of all type Shuttles. Comparison made them famous.

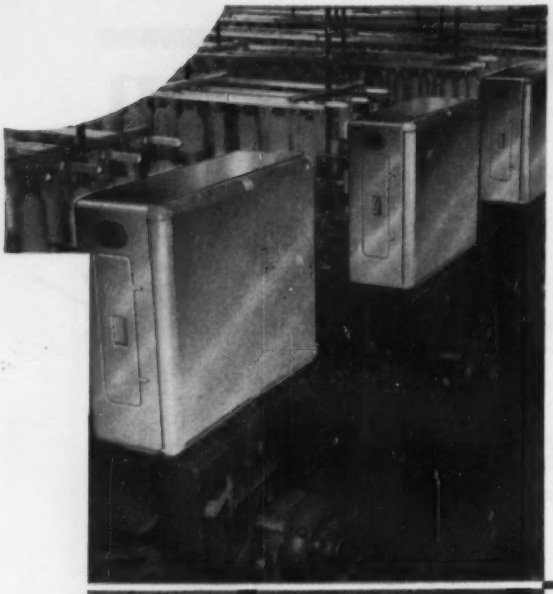
Slehedco
STEEL HEDDLE MFG. CO.
PHILADELPHIA 32, PA.
SOUTHERN SHUTTLE DIV.
GREENVILLE, S.C.
Southern

TEMPERED

QUALITY Slehedco CONTROL

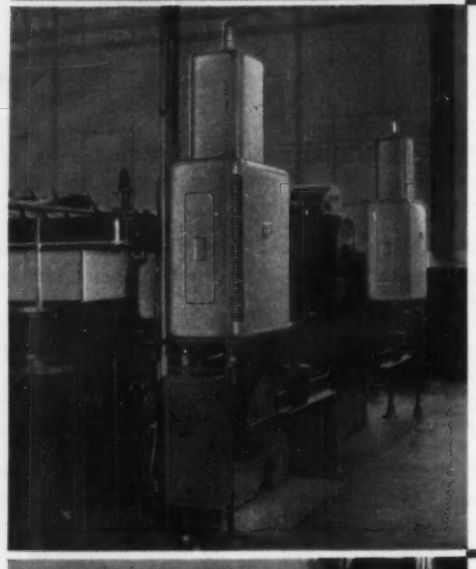
STEHIDE

Other Plants and Offices: Granby, Quebec, Canada—Lawrence, Mass.—Greensboro, N. C.—Atlanta, Ga.—Textile Supply Co., Dallas, Texas—Albert R. Breen, Chicago, Ill.

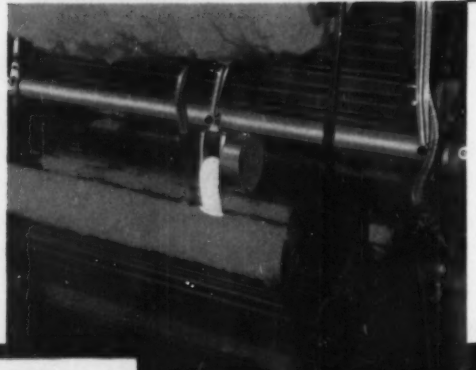


st THREE STEPS

PNEUMAFIL



PNEUMASTOP



CONSTANT CARD

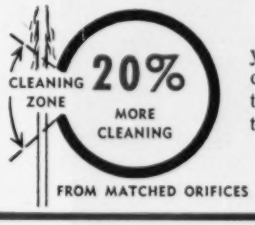
PNEUMAFIL CORP.
CHARLOTTE 8, NORTH CAROLINA

©Pneumafil Corp. 1959

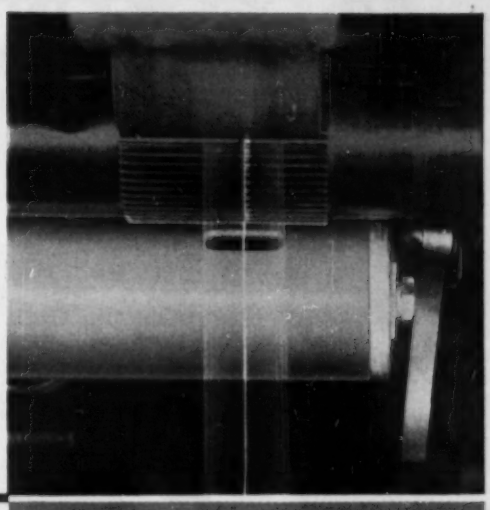
TOWARD MILL MODERNIZATION

Time-tested *genuine* PNEUMAFIL systems have proven to yield the highest return of any single mill investment. Only *genuine* PNEUMAFIL equipment is tailored and engineered to meet the most specific requirements of every fiber, blend, and drafting system.

PNEUMAFIL is your best investment!



Only the knowledge gained from more years of experience in the science of vacuum cleaning can produce the *right* air quantities, the *right* pressures, the *right* horsepowers, and the *right* system for your mill!

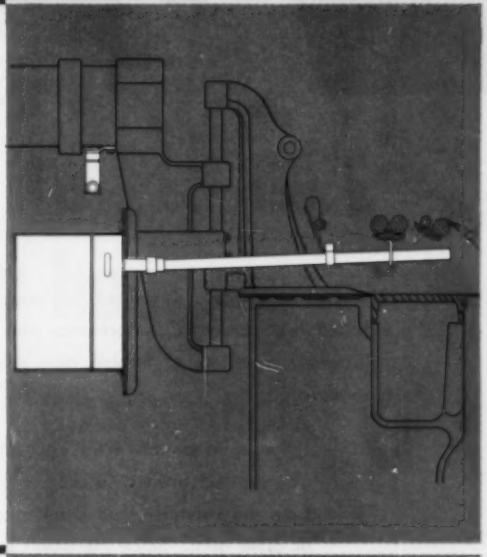


PNEUMASTOP air-cleans and preconditions each strand of roving with ten cubic feet of air per minute. Moisture is added and loose lint and trash are removed to assure *clean, better running* roving on the spinning frame.

Exhaustive ends down tests comparing "PNEUMASTOP roving" with regular roving prove that *savings* in spinning costs *alone* will pay two-thirds of PNEUMASTOP'S cost in just one year.

Where does PNEUMASTOP pay off?

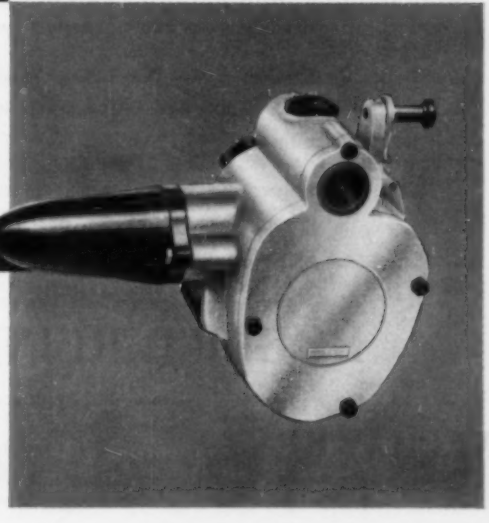
PNEUMASTOP'S dual stop motion stops the frame on creel breaks and sliver run-outs *instantly,* leaving a piecing tail. Broken ends are under control at all times, (even during traverse change) and flyer picking and cleaning time is substantially reduced. These *exclusive* features allow roving tenders to handle more frames than with any other type of stop motion!



CONSTANT CARD is a self-contained vacuum suction system which greatly improves the carding action of the cotton-type card. It causes a superior and constant carding action between flats and the cylinder by maintaining a constant fiber load on the cylinder.

For fiber savings and superior carding!

Stripping cycles are increased up to 120 hours, resulting in phenomenal fiber savings, labor savings, and quality improvements. The equipment pays for itself in a very short time and is now available for immediate delivery.

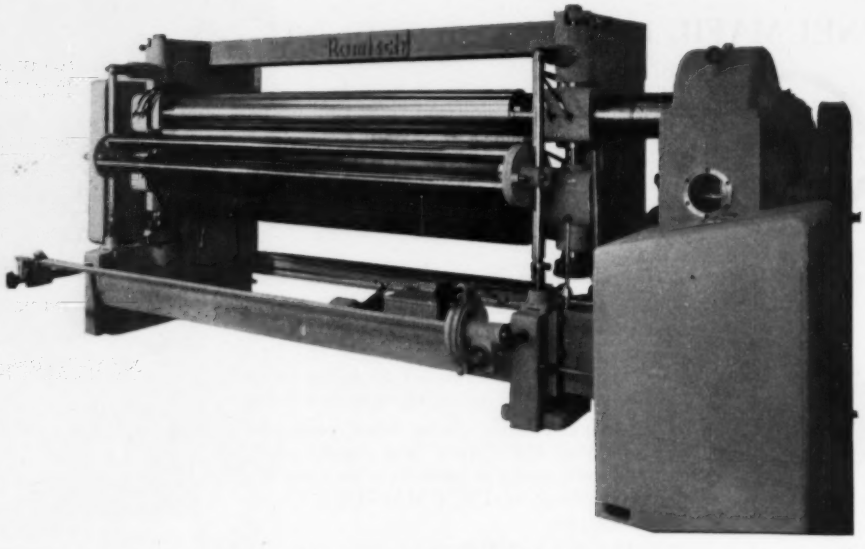


THE WORLD-FAMOUS *RAMISCH*

TRICOT SCHREINER CALENDER

CAN BE USED FOR 5 DIFFERENT EFFECTS — CHANGE-OVERS REQUIRE ONLY 30 MINUTES!

SCHREINERING
PLUS
- FLAT EMBOSSING
- RELIEF EMBOSSING
- CRYSTAL
- CREPE



We have added this renowned equipment to our line because we believe it is unexcelled in construction, performance and range. Its multi-functional usefulness permits mill-owners a variety of finishes plus substantial savings. Briefly, some of its unique features are:

The two upper bowls for each of the various processes are combined into one single unit (paired bowls). Thus, you need no more than 30 minutes to detach the bowls from the calender frame and exchange them for another set without disturbing drive or drive gear. Since the bowls are combined in one unit, the "heart" of the calender remains intact insuring perfect synchronization of bearings and bowl shaft ends.

The Dr. Ramisch & Co. G.m.b.H. in West Germany is one of the most experienced firms in the calender line. Its many products cover the entire range and needs of the textile industry.

Reiner also offers machines for handling woven goods, for laboratory use, and special effects. **Complete descriptive literature, Schreinering and other sample swatches upon request.**

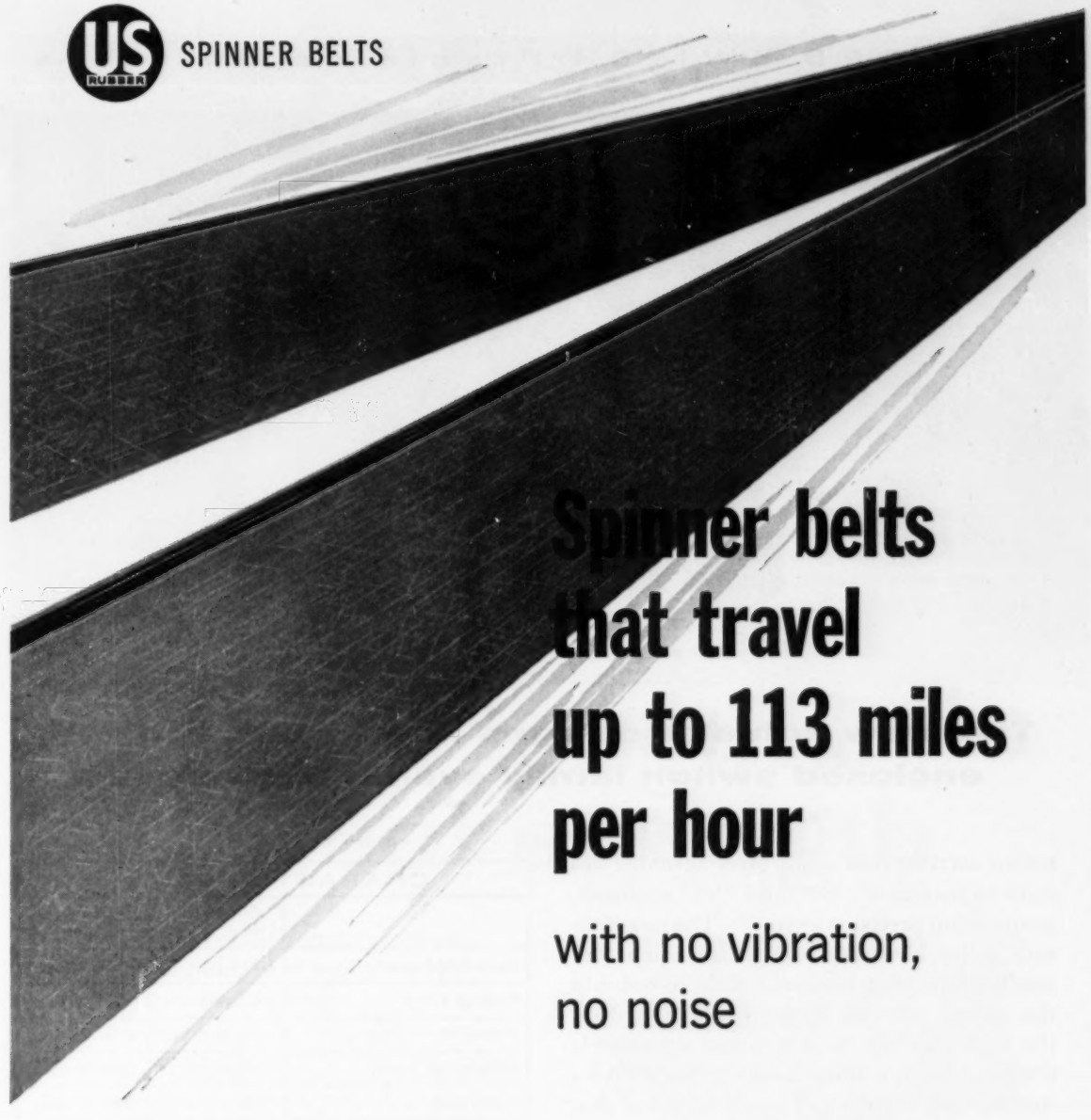
ROBERT REINER, INCORPORATED

Telephone: UNion 7-0502 — From New York City call LOngacre 4-6882

WEEHAWKEN *(Only 10 minutes from Times Square by direct bus)* **NEW JERSEY**

An Honored Name in Textile Machines Since 1903

US RUBBER SPINNER BELTS



Spinner belts that travel up to 113 miles per hour

with no vibration, no noise

AND NOW—"U. S." presents a truly superior spinner belt. This belt travels as fast as 10,000 feet per minute—to meet the higher speeds made necessary by the high reduction in the length of spinning machines.

Special construction methods developed by U. S. Rubber engineers result in this belt having only three splices, regardless of its length. To prevent contamination of the yarn on the spinner, the outside surface of the belt jacket is cut and constructed on a bias and is smooth and free of surface rubber.

This remarkable belt has high strength and low stretch. Its superbly engineered construction and the minimum number of splices *assure uniform twist and smooth spindle operation.*

• • •

When you think of rubber, think of your "U.S." Distributor. He's your best on-the-spot source of technical aid, quick delivery and quality industrial rubber products.

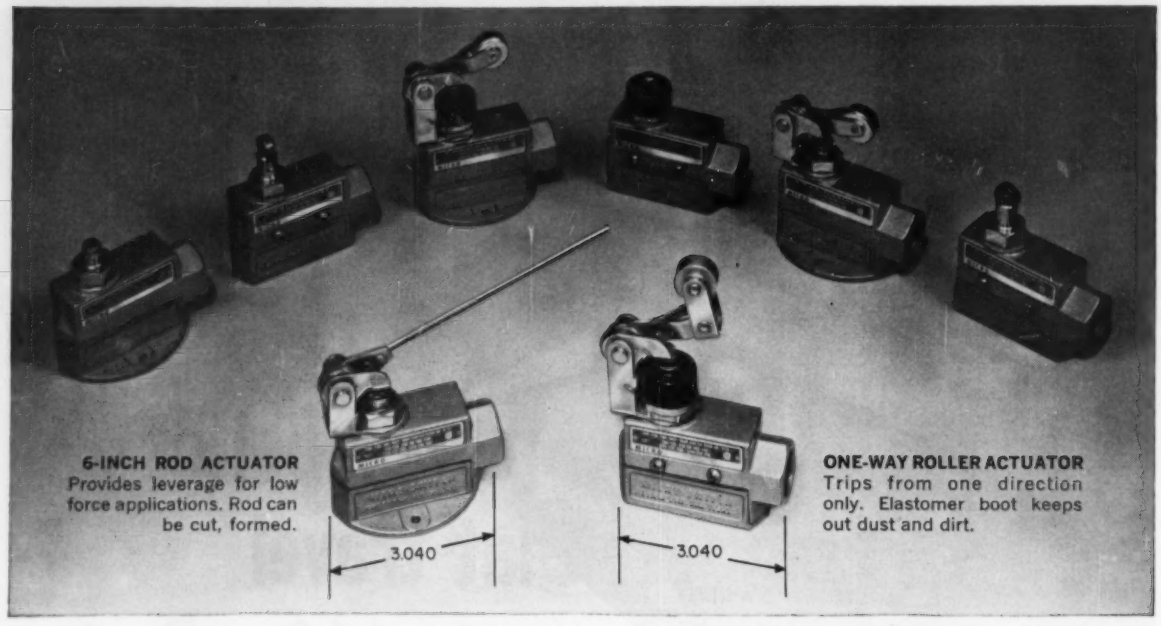
US RUBBER Mechanical Goods Division

United States Rubber

WORLD'S LARGEST MANUFACTURER OF INDUSTRIAL RUBBER PRODUCTS

Rockefeller Center, New York 20, N.Y. In Canada: Dominion Rubber Company, Ltd.

MICRO SWITCH Precision Switches


6-INCH ROD ACTUATOR
Provides leverage for low force applications. Rod can be cut, formed.
3.040
3.040
ONE-WAY ROLLER ACTUATOR
Trips from one direction only. Elastomer boot keeps out dust and dirt.

Two new actuator designs make "E6" and "V6" enclosed switch family even more versatile

MICRO SWITCH now offers *eight* actuator designs in its line of "E6" and "V6" enclosed, snap-action precision switches. The new one-way roller lever is ideal for machine tool applications that require a slide to actuate the switch, override it, and *not* actuate it on the return stroke. The new rod actuator is designed for low-force applications such as sorting and counting. The six-inch rod can be cut or formed to adapt to the user's specific requirements.

These remarkably compact switches are available for side mounting (E6), or bottom mounting (V6). They are easy to wire, well sealed, long lasting (through millions of operations), and will handle #0 and #00 contactors. Side mounting switches are available with #8 as well as #6 mounting screws. Send for Catalog 83.

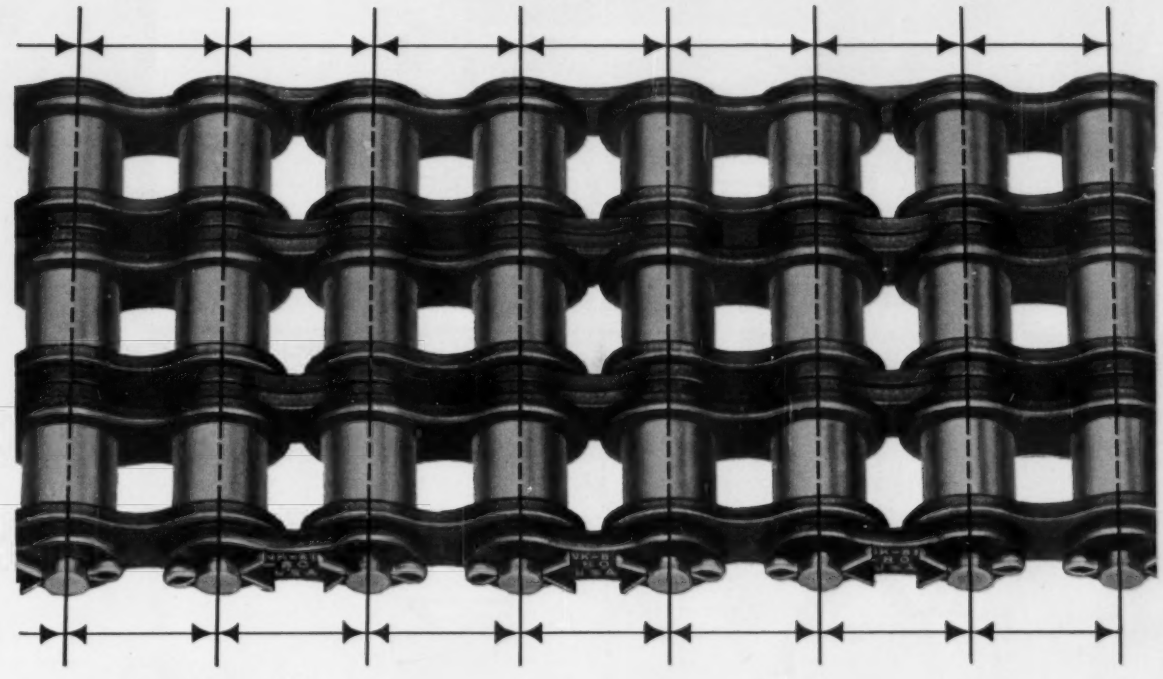
CHARACTERISTICS		
	6-inch Rod	One Way Roller
Operating Force	2 to 5 oz.	8 to 20 oz.
Release Force	2 oz. min.	6 oz. min.
Pretravel	.718 in. max.	.234 in. max.
Differential Travel	.229 in. max.	.006 in. max.
Overtravel	.838 in. min.	.219 in. min.
Vertical Adjustment Field	1238 positions through 225°	990 positions through 180°
Horizontal Adjustment Field	8 positions through 360°	All positions through 360°

All "E6" and "V6" switches have a single-pole, double-throw contact arrangement. They are listed by Underwriters' Laboratories at 15-amps, 120-, 250-, or 480-vac; ½-amp, 125-vdc; ¼-amp, 250-vdc.

MICRO SWITCH . . . FREEPORT, ILLINOIS
A division of Honeywell
In Canada: Honeywell Controls Limited, Toronto 17, Ontario

Honeywell
MICRO SWITCH Precision Switches

38 CIRCLE 38 ON READER SERVICE CARD



Equal length... equal strength

How pre-stressing ensures uniform load distribution of multiple-width LINK-BELT roller chain

Pre-stressing is one of the reasons why Link-Belt multiple-width precision steel roller chains easily handle the grueling loads common on today's drives. It seats and cold works the chain joint parts, assuring equal load distribution across the chain, minimum initial elongation, increased fatigue life.

Pre-stressing is just one of many "extras" that contribute to the *greater dynamic strength* of Link-Belt roller chain. Others include: close heat-treat control, lock-type bushings, shot-peened rollers, pitch-hole preparation. For details see Book 2657.

PRE-STRESSING MACHINE provides the pull that "sets" the parts of Link-Belt multiple-width roller chain. Besides assuring uniform load distribution, pre-stressing eliminates application difficulties on fixed center drives because the chain leaves the factory at precise operational length.

LINK-BELT

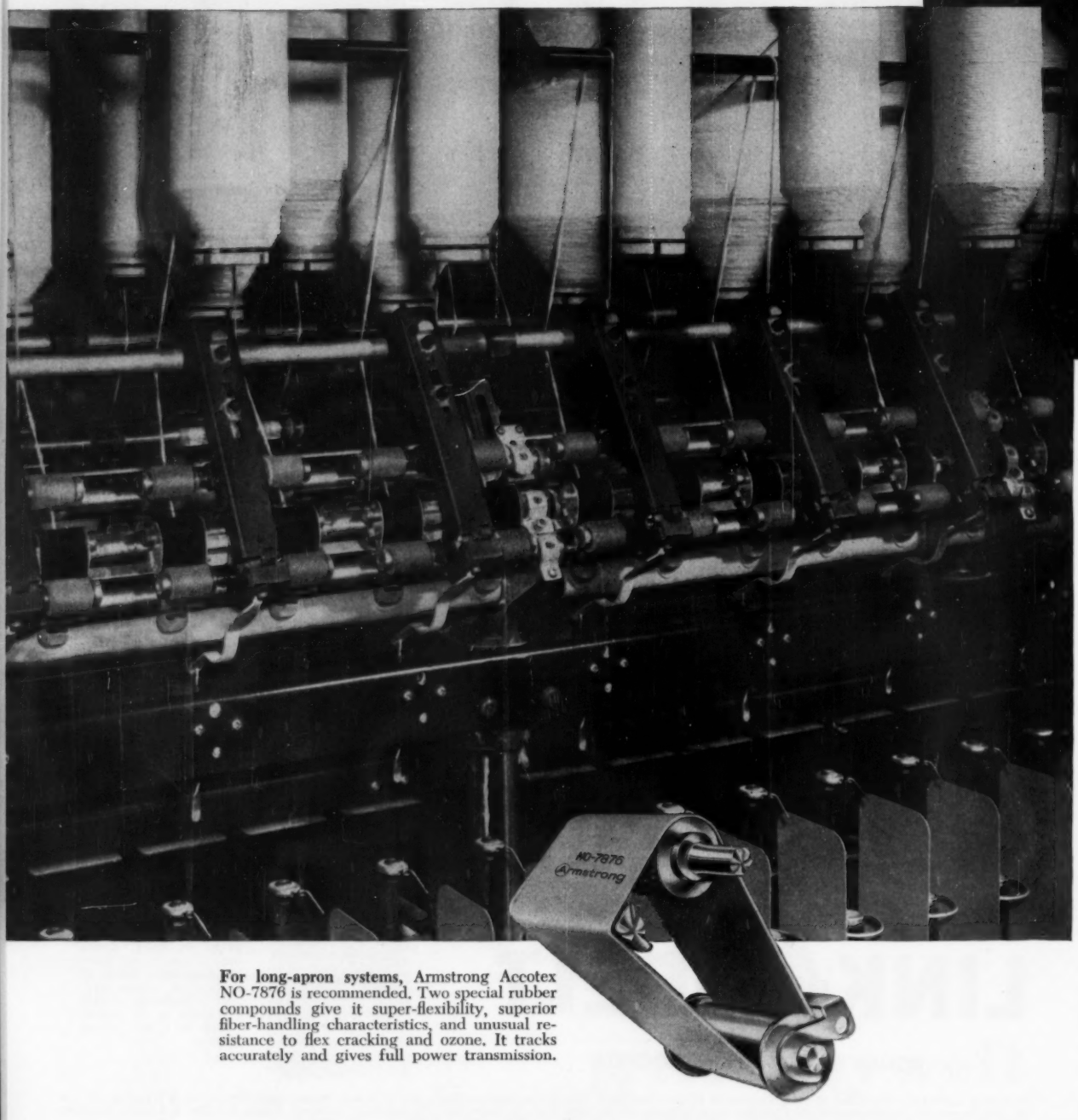
THE SYMBOL OF QUALITY · LINK-BELT ·

ROLLER CHAINS AND SPROCKETS

BOOK 2657 has 154 pages of roller chain data. Contact your nearest Link-Belt office or authorized stock-carrying distributor. (See CHAINS in the yellow pages of your phone book.)

15,077

LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock Carrying Factory Branch Stores and Distributors in All Principal Cities. Export Office, New York 7; Australia, Marrickville (Sydney); Brazil, Sao Paulo; Canada, Scarboro (Toronto 13); South Africa, Springs. Representatives Throughout the World.



For long-apron systems, Armstrong Accotex NO-7876 is recommended. Two special rubber compounds give it super-flexibility, superior fiber-handling characteristics, and unusual resistance to flex cracking and ozone. It tracks accurately and gives full power transmission.

For close-pin double-apron systems, use Accotex NO-7075. This black-and-white apron pioneered the two-compound principle in aprons. Special synthetic rubber compounds give it smooth drafting properties and good resistance to abrasion and cracking.

Spin quality yarn on any high-draft frame with Armstrong Accotex Aprons

Smoothness . . . uniformity . . . strength: all the things that add up to quality yarn depend largely on the performance of your spinning aprons. That's true whether you're using a close-pin double-apron system or one equipped with long bottom aprons.

To keep yarn quality high, hundreds of mills have standardized on Armstrong Accotex Aprons. These aprons have just the right frictional qualities for smooth drafting on any frame . . . and the right fiber-handling characteristics to produce quality yarn from any fiber or blend.

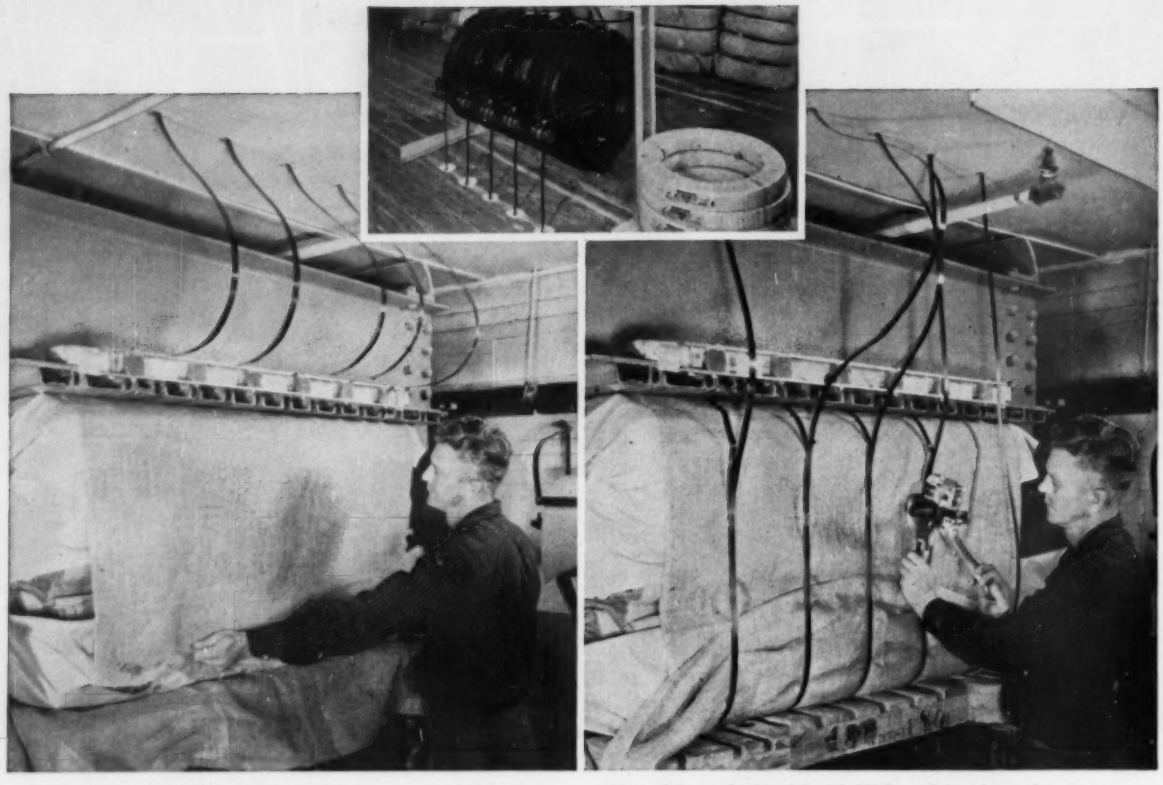
Another reason for this performance is the tough cord interliner that prevents stretching or curling of the apron. This patented Accotex construction maintains the apron's dimensional stability and assures smooth operation.

Your Armstrong man will gladly arrange for a test of Accotex Aprons. For information, write Armstrong Cork Company, Industrial Division, 6410 Dauphin Street, Lancaster, Pennsylvania.

Armstrong ACCOTEX APRONS

. . . used wherever performance counts

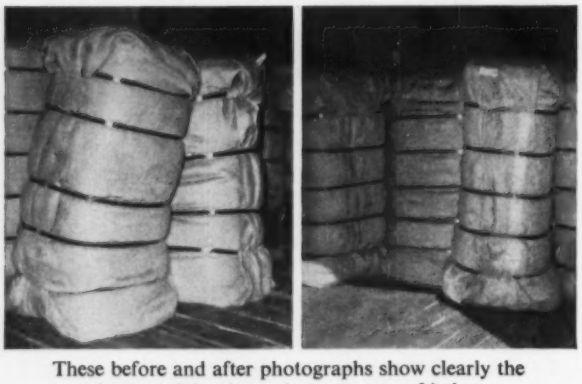
CIRCLE 41 ON READER SERVICE CARD



Strapping is fed from dispensers in room above press (inset). A magnetized bar holds the straps in position while bale is readied.

Signode's exclusive Model SFC tool tensions the strapping, feeds seals from magazine, and crimps them. Straps are severed at the seal. No waste strap.

Signode way produces denser bales and reduces strap use by 17%



These before and after photographs show clearly the improved density and appearance of bales.

Here's an example of a simple and inexpensive answer to a packaging problem. Waste—which was part of the former cut-to-length strapping method—was eliminated, with a 17% saving in the amount of strapping used. Bales are better looking. Their increased density saves about 7% of valuable space in storage and shipment. The entire strapping operation is simplified, goes easier and faster.

Why not let a Signode man take a new look at your packaging and shipping operation. He has an eye for savings, specialized knowledge of textile applications, and a complete line of strapping tools and machines at his disposal. Call him today, or write:

SIGNODE

First in steel strapping

SIGNODE STEEL STRAPPING CO.

2642 N. Western Avenue, Chicago 47, Illinois

Offices Coast to Coast. Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

YOU BENEFIT FOUR WAYS from WHITIN Even-Draft* Drawing

1. Increased production
2. More uniform sliver
3. Lower costs in drawing and subsequent operations
4. Better quality yarn and fabric

Partial view — installation of 264 deliveries of Whitin Even-Draft Drawing at Riegel Textile Corp., Trion, Ga.

Mill after mill is proving that Whitin Even-Draft drawing provides 4-way benefits. Operating at 400 feet per minute Even-Draft drawing frames produce extremely uniform sliver — reduce floor space and direct labor cost by as much as 50%. The improved sliver, and consequently better roving, results in greatly improved spinning room performance. Mills also report fewer ends down, increased yarn breaking strength and evenness. Weaving operations benefit from stronger yarn and mills agree that fabric quality has improved following the installation of Whitin Even-Draft drawing frames.

Now installed in more than 150 mills in more than 40 countries, these frames continue to make profits for their users.

*Trade Mark

For complete information ask your Whitin representative or write direct to us.

WHITIN MACHINE WORKS

WHITINSVILLE • MASSACHUSETTS

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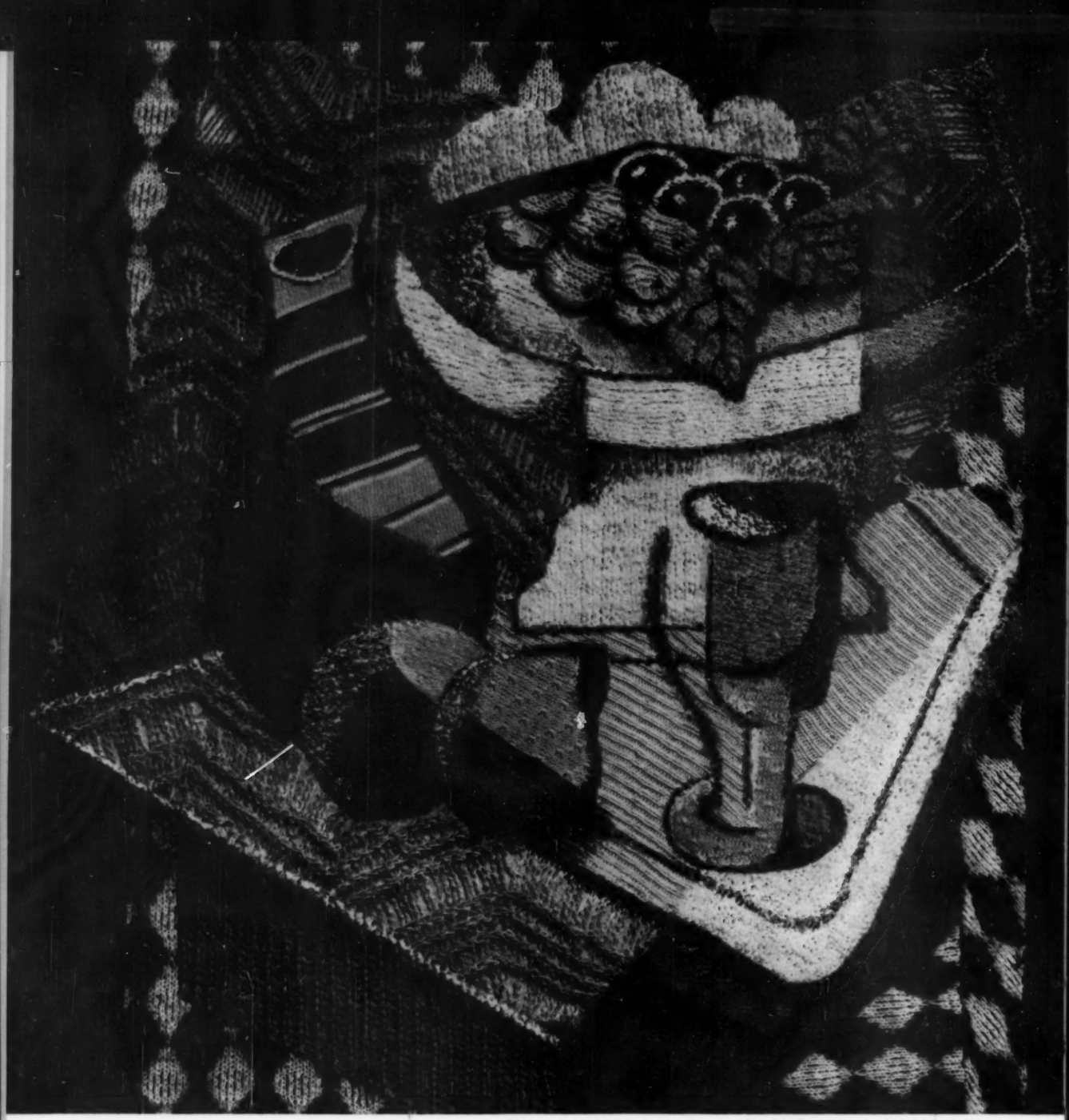


Still life in **knitted fabrics** based on the style of Juan Gris, Spanish-French cubist of the early 20th century

FINE ARTS IN KNITTING... The craftsmanship shown by a recognized artist is the result of experience and mastery of materials. Brushes are selected carefully, for brush strokes are an artist's trade mark. In knitting too, one tool is all important. It is the needle, for fabric quality depends on needle performance. Arrow Latch Needles, made by one of the world's leading knitting machine builders, reflect years of know-how in each polished surface. Specifically designed for particular jobs, all Arrow Latch Needles are produced to help you maintain the quality that maintains sales.

Arrow LATCH NEEDLES

Wire Products Division
TEXTILE MACHINE WORKS • READING • PENNA. In the South: Asheboro, N.C. In the North: Manchester, N.H.

CIRCLE 44 ON READER SERVICE CARD

The Next Twelve Months

The textile industry is beginning this month what may be the best six-month period it has had in the whole 1950's decade.

Anyone who reads TEXTILE WORLD's Textile Business section month by month is well aware that:

- Mill production for the year is likely to be the highest it has been in any calendar year in the 1950's, higher even than in either 1950 or 1951, the years of the Korean War.
- Mill sales, which went above an annual rate of $15-billion a year in May, are almost certain to hold that pace and wind up the year well above $15-billion. That will make the sales year one of the industry's most brilliant years.
- Mill profits are better now than in any year since 1951 and are still improving because deliveries being made now are at the best prices and the best margins of profit of deliveries made at any other time this year.

The Top Six Months

But as good as 1959 has been and as a calendar year will show up in the record, the next six months, it seems now, will constitute a peak that will considerably outperform the year as a whole.

Production and deliveries are certain to remain high, and profits are certain to continue good if not improve throughout the period.

But a peak is a peak. Like a roof-top, it goes up one side and down on the other. It will be something new in the textile industry, except for early World War II, if production and deliveries do not begin to decline at the year's end. Forward buying slowed in August, with few buyers covered for the first quarter—an indication that a downturn may be coming.

The rise began in the textile industry in May 1958. This month is the eighteenth month of significantly improving business. As all students of the textile industry's business cycles know, that's about it this time. About the only question is whether the downturn will start in December or January, and that's such a small point that it's not worth arguing about.

But even though production and sales do turn down on a chart, they will still be at one of the very highest points in history. And mill profits will still be extremely good, compared to late years. So nobody will be worried, and the change to a downtrend will be so gradual and small and tied so closely to industry holidays that few people will even notice it.

Time for Action

However, the change in business probably will become noticeable in the second quarter of next year. Because nearly all textile organizations have spring meetings in that quarter and a great many speeches will be made and reported by newspapers, "bad business" is likely to get a lot of attention. Pressure is likely to be on to cut costs because profits will begin to feel a pinch.

The actual downturn in production is not likely to last long. It should reach a bottom in July and rise again in the last half of 1960. But the critical factor will be prices and profits. Pressure always develops when order backlogs ease up so much that production drops off.

A great deal of pressure on profits and on operating personnel can be avoided in late 1960 if a gradual campaign of tightening up on costs is started now.

In any extended period of good business, such as we are in now, control always eases up. When that happens, costs always rise. Probably few mill men in responsible positions would fail to find leaks if they looked seriously and critically at their operations right now.

Unfortunately, the tendency is to let things ride until the operating statement forces the profit factor to take precedence over other considerations. Then the whip is cracked, and the fat is wrung out of operations.

Cracking the whip can be softened, perhaps even avoided in a great many cases, in 1960 if serious attention is given now to eliminating leaks that go unnoticed during periods of good business but cannot be tolerated when business is bad.

O. M. Thomas

BETTER COTTON BLENDING by WEIGHT CONTROL....

FIBER CONTROLS

The weighing type feeder has proven its worth in many mills blending synthetic staple fibers and synthetic-natural fibers.

Extend this important factor of weight control into the cotton opening room with a 100% SYNCHROMATIC BLENDING SYSTEM.

Consider these significant facts:

A. The production in *5 seconds* of 6 conventional hoppers is *enough fiber for a yard of lap on each of 3 pickers.*

B. Each hopper pinned lifting apron during the 5 second interval will peel tufts *from the outside only* of the folded slab normally charged into the hopper.

C. The short term rate of stock flow—5 second interval by 5 second interval—from a standard volumetric hopper *can vary 300% by weight.*

D. The combined output of six hoppers during *any 5 second interval moves as an integral mass* in an orderly, continuous progression through the cleaning equipment to the pickers.

The conclusion should be that the blend, yard by yard of picker lap, is fiber representation primarily *from 1 bale per hopper* or *from 6 bales* in this example; not a mix of the 20 to 40 bales that may be open on the floor.

Accordingly, if the yarn quality goal is count size uniformity and inch by inch evenness, why not use a more systematic approach to getting an equal number of fibers inch by inch of yarn.

Install the Synchromatic System based upon the physical property of fiber density (Micronaire Fineness) or, for example, the number of cotton fibers per ounce of stock.

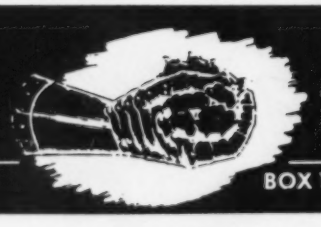
1. Lay down bales of the same fiber fineness within ½ point micronaire behind individual SYNCHROFEEDERS: i.e., 3.0 to 3.4 at 1st feeder; 3.41 to 3.80 at 2nd feeder, reworkable waste behind on the next feeder, etc.
2. Combine weigh pan dumps, ounce by ounce, in an accurate sandwich on a slow moving horizontal SYNCHROVEYOR.
3. Cut vertical cross sections inch by inch through the sandwich with the fine pinned beater of the SYNCHROBLENDER.

The result from actual experience can be a 25 % *reduction* in day to day variations, which means better yarn quality at higher plant efficiency.

No additional floor space, connected horsepower, or labor is required.

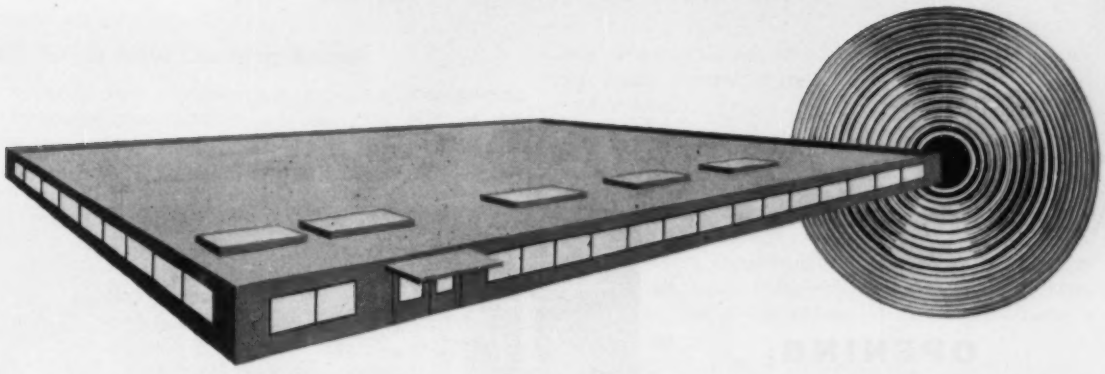
Write or contact us for further and more complete information.

U. S. Sales Agents: PARROTT and BALLENTINE, Inc., 3440 Augusta Road, Greenville, S. C.



FIBER CONTROLS CORPORATION

BOX 1358 *GASTONIA, NORTH CAROLINA*



1959 MODERNIZATION

66 Case Studies Of Mill Improvement

- **Mills are modernizing this year at the fastest rate since 1951, when they bought $½-billion worth of new machinery and parts.**
- **But rapid technological improvements have increased the spread of obsolescence faster than installation of new equipment has reduced it.**
- **In this report, the editors of TEXTILE WORLD present 66 case studies of what mills are doing to increase profits and grow.**

A SURGE OF MODERNIZATION is now under way in the textile industry. Orders are being placed for new machinery and equipment, and deliveries are being made, at the fastest rate since 1951.

At this time last year, the textile industry was at least 65% obsolete. This percentage has been increased significantly by technological improvements such as shuttleless looms, automatic doffers, improved roving and spinning, and others that have emerged since the extent of obsolescence was studied.

Textile business "turned the corner" in May 1958, 18 months ago. This year, mills are producing more and showing a better profit than in any year in the 1954-58 business cycle.

Mill improvement began in a trickle last fall, but it reached full-scale proportions only this spring and summer, after mill profits improved substantially. It has not proceeded long enough yet to have made much of a dent in the widespread obsolescence of the industry.

With better-than-usual prospects for good business and good profits for several years in a row, plus this back-up opportunity for improving operations, the textile industry is almost certainly in the early stages of a period of mass modernization similar to that of the immediate post-World War II period.

In this special section on "1959 Modernization," the editors of TEXTILE WORLD present an industry roundup of case studies of modernization that have recently taken place or are now going on.

1959
MODERNIZATION

OPENING, PICKING, BLENDING

BLENDING COTTON on a massive scale is done in special rooms by some mills.
Coze Studio

Fiber-Metering Machine Is Added

Beaumont Div., Spartan Mills, Spartanburg, S. C., recently began running a blend of 25% 420 nylon and 75% cotton. The cotton is cleaned in the regular opening line and then tinted and dried. Tinting is to identify mixed waste and yarn at all processes.

Blending is done at a new fiber-metering machine with three regular hoppers that weigh 16 oz. of cotton and one regular hopper that weighs 14 oz. of nylon for each drop. About 200 lbs. of stock per hr. is fed through each hopper. There is a fifth hopper for reworkable waste.

The blended stock is put through three two-beater pickers and made into 14.7-oz., 58-lb., 60-yd. laps at about 270 lbs. per hr. A three-blade back beater runs 900 rpm., and the Kirschner front heater turns 1,000 rpm. Both fans have a speed of 1,275 rpm.; the stock receives 40 beats per inch.

For this blend, pickers are run exactly as for 100% cotton except that pneumatic pressure is cut from 80 to 60 lbs. and four sticks of roving are worked in to keep the laps from splitting.

Cleaning Line Is Changed

Glenwood Mills Div., Mayfair Mills, Easley, S. C., recently completed a $1½-million modernization program. Every department in the mill from opening through the cloth room was improved.

This mill annually produces over 35-million yds. of print cloth ranging from 60x48 to 80x80 in 39- to 45-in. widths. One big item at present is the popular 41-in. 78x78 construction of 4.05 yds. per lb.

The modernized opening room is in an area by itself. With the present layout, two complete mixes totaling 112 bales of 1⅛-in. California and Memphis cotton are laid out all the time. One mix of 56 bales is being carefully blended while the second 56-bale mix is allowed to bloom for one day.

Mixes are all checked by Micronaire testing to blend for the correct yarn strength and nep-count control.

The cleaning line was changed, and return-air filters replaced the old dust house to hold humidification. Lap conveyors were also put in.

The picker room is at the east end of the second-floor card room where cotton fiber in process starts its move westward.

The picking department consists of four two-beater pickers. Front beaters operate at 900 rpm., and back beaters run at 1,050 rpm.

Curly Cotton Is Eliminated

Opening and picking have been made easier at Borden Mfg. Co., Goldsboro, N. C., by the installation of new machinery and modification of old machinery. The liberal application of Kinks, especially in the picker room, played a big part in increasing production and quality of knitting yarn.

New opening-room equipment includes two feeders, two Axi-Flo cleaners, two cage sections, and one return-air condenser.

New grid bars were installed in old cleaners, and the reserve box was taken off the No. 12 cleaners. These changes practically cut out chokes, and lap evenness is much better.

Curly cotton was eliminated by reducing the speed of the vertical opener from 600 to 450 rpm.

Three 20-bale mixes of cotton are run, and production is about 1,000 lbs. per hr. Waste removed by the opening line averages 0.98%.

A system of fans is used to pull warm air from the card room into the picker room during the cold months and to exhaust hot air outside in summer. The arrangement, which can vary the temperature as much as 10° F., cost very little to install.

Borden operates four one-process pickers that produce 14-oz., 51½-lb. laps. Evenness, which now is 98 to 100%, was improved by installing perforated screens at the front, top, and bottom of each picker. Pickers are overhauled at regular intervals.

Mill Builds New Opening Rooms

Avondale Mills of Alabama is in process of completing a $5-million modernization program. The bulk of this sum was spent during the last three years, and major improvements were made in all nine plants. Results are reflected in improved quality and reduced costs.

Avondale operates 1,271 cards, 243,164 spindles, and 3,530 looms. Nearly all of these machines were modernized or replaced with new equipment.

The modernization program was begun by building new opening rooms in most of the plants and equipping them with the latest types of opening, cleaning, and blending equipment. This initial step was followed by revamping, department by department, each of the nine plants and the nonwoven unit. Much of the recent work was done at Birmingham and Pell City.

Wool Quality Is Controlled

Woonsocket Spinning Co., Woonsocket, R. I., has modernized its opening and blending operations through the application of rigid quality-control methods.

This company produces up to 1.5-million lbs. of all-wool and specialty-fiber yarns per year. Range of numbers is 2 to 10 run, and staple lengths are from 1 to 2¼ ins.

Every lot of wool coming into the plant is coded and tested for staple length and fiber diameter by visual inspection and with a microscope. Dyed and blended white stock is packed in paper bags until ready for use.

Individual lots may be assigned to special machines to make sure that the stock receives controlled processing. Tests are performed at every department throughout the mill.

Much of the wool is bought in the grease to be scoured and combed by carefully selected firms on a commission basis. Woonsocket has an understanding with these firms that quality control of these lots will be at the highest possible level.

Opening Room Is Modified

Rhyne-Houser Mfg. Co., Cherryville, N. C., formerly a long-staple cotton mill, sometime ago was put on 15s to 40s high-bulk Orlon blends. About 30,000 lbs. of yarn per week are made from 60% regular and 40% high-bulk 1-, 2-, and 3-den. Orlon. Staple of all deniers is 1½ ins. long.

When the management decided to go 100% on man-made fibers, the first step was to replace cotton opening and cleaning equipment with a weighing blender. This blender is fed by three special hoppers.

One hopper is used for regular fiber, one for high-shrinkage fiber, and one for soft waste. Two bales of regular yarn and one bale of high-shrinkage yarn are blended at 400 lbs. per hr.

After blending, the stock is fed through a condenser to a reversing apron that supplies two single-process pickers. Each picker has two Kirschner beaters. The back beater runs 650 rpm., front beater 900 rpm., back fan 850 rpm., and front fan 1,150 rpm. An 11-oz., 43-lb. lap is made.

One of the problems in picking Orlon is pulling out the lap pin. At Rhyne-Houser, a pneumatic lap puller was rigged up by the master mechanic to do this job.

Another problem is that Orlon laps tend to split excessively at the card. To stop splitting, four ends of card sliver are worked into the lap at the picker. Sliver cans are placed directly on top of the picker to serve as supply packages.

The only other modification made at the picker was removal of the grid bars. No waste is taken out at this point.

CARDING, COMBING, DRAWING, ROVING

HIGH-SPEED DRAWING and large cans are becoming standard equipment in most card rooms.

Combing Cost Is Cut

Highland Park Mfg. Co., Charlotte, N. C., recently completed a modernization program that resulted in an estimated investment return of more than 43%. Much of the work was done in the carding department, with emphasis on lap preparation and combing.

A survey made prior to the modernization indicated

1959 MODERNIZATION

that card-room costs could be lowered 47% for lap preparation and combing and about 37% for roving. After modernizing, the mill found that the anticipated savings were exceeded substantially.

The modernized card-room machinery organization consists of one-process drawing followed by an improved ribbon lapper with pneumatic head. Fourteen new high-speed combers with two-can delivery are next in line. Then come 16 deliveries of high-speed drawing and seven 12x6½ long-draft roving frames.

The drawing operation produces a 70-grain sliver from 47.5-grain card sliver with a draft of 5.43. The ribbon lapper drafts 4.20, producing a combined draft of 23. The additional doublings in this lap-preparation process improved ends down in spinning, evenness, and yarn quality in general. The two processes produce 480 doublings in comber-lap preparation.

The new comber organization reduced noils from 16 to 13.5%. Waste savings are estimated at nearly $35,000 annually. Yarn appearance, strength, and evenness are as good or better as when the greater percent of noils were being removed. The combers operate at 150 nips per minute and produce 48 lbs. per hr. net.

Card Room Is Rearranged

Fulton Cotton Mills, Atlanta, Ga., half-way through a $2-million modernization program, has completely rearranged Mill No. 1.

Cards were extensively reclothed, and metallic clothing was put on 26 of them for evaluation. Card coiler cans of 18x42 ins. with 40-lb. sliver capacity were added. This mill now has 229 cards producing 13½ lbs. per hr.

All machinery in the fourth-floor card room was relocated except a few cards. Floors were sanded, sealed, and polished. Old humidifiers were replaced with new atomizers. A new power line was brought in for individual drives for all drawing and roving frames.

Older model cards were junked, and 66 cards were moved from Mill No. 2. Full production was maintained during moving and overhauling.

New high-speed drawing on the fourth floor has 72 deliveries. Speed is 350 ft. per min. at present, and work runs well. Drawing sliver is 62 grains on all except one frame.

Drawing cans are 16x42 ins. and doff at 34 lbs. The old machines ran at 175 ft. per min. and supplied 12x36-in. cans.

Ten new roving frames have 96 spindles each and produce 14x6½-in. bobbins of 0.40- and 0.65-hk. roving. A 75-oz. bobbin has proved to be the best weight for Fulton's roving although experiments have been made on heavier packages. Flyer speed is 680 rpm. These frames have electric stop motions and overhead cleaners.

Twelve roving frames on the third floor of Mill No. 1 were overhauled. Four frames were equipped with ball bearings on lifter shafts and other parts, and drives were changed.

Eight older 12x6½ roving frames were overhauled, ball bearings were added, and compounds were changed to chain drives. These frames produce 0.40-, 0.65-, and 1-hk. roving.

New Drawing Cuts Labor Cost 40%

Riegel Textile Corp. has installed a total of 408 deliveries of new high-speed drawing at its Ware Shoals, S. C., and Trion, Ga., plants. Of the 51 new machines, 33 went to Trion and 18 to Ware Shoals.

At Trion, 468 deliveries of old drawing were replaced with 264 deliveries of new drawing. The frames supply 108,160 spindles and 1,964 looms on canton flannel, poplin, gabardine, twills, soft-filled sheeting, and similar fabrics.

The new drawing frames, running 400 ft. per min., have cut drawing labor cost 40%. Sliver evenness is 2.86% on the Uster tester. Long-range variation was cut to a minimum. Other less-direct benefits include 50% fewer ends down on some numbers of yarn and improved conditions throughout spinning.

At Ware Shoals, where 368 deliveries of old drawing were replaced with 168 new deliveries, results were comparable. These frames operate at 400 ft. per min. and put over 36 lbs. of 60-grain sliver in 16x42 cans. Creeling is from 18x42 cans holding 40.8 lbs. of 60-grain sliver.

The new frames cut labor cost 35% and produced other direct and indirect benefits.

New Wool Cards Improve Quality

Woonsocket Spinning Co., Woonsocket, R. I., recently installed new 72-in. wool card sets to process up to 1.5-million lbs. of stock a year.

The cards are equipped with the latest improvements, which include 160- and 176-end single-rub tape condensers, V-belt stripper drive, V-belt countershaft drive from motor, and silent-chain drive from counter-shaft to cylinder. A variable-speed drive for the feed rolls on the card breast makes it possible to increase or decrease feed-roll speed without changing gears.

To make sure the stock receives the best possible processing at the cards, individual lots are assigned to specific machines according to settings, fineness of clothing, number of workers and strippers, and number of ends in the condenser.

To prevent mixing fibers, cards are equipped with wind breaks and in most instances are separated from adjacent machines by partitions. The entire department is walled off from other departments.

The new equipment and careful processing make it possible for Woonsocket to produce extremely high-quality custom yarns for luxury-apparel manufacturers.

Modernization Pays 29.5% Return

A 40,000-spindle mill manufacturing 6s to 24s carded cotton yarn recently modernized at a cost of $768,000 and reduced manufacturing costs $227,000 annually. Investment return is 29.5%.

Some new carding equipment was installed and old

equipment was modernized; spinning was changed over by adding new drafting, spindles, etc.

Production per manhour was increased 8.75%, or 590,000 lbs. per 6,000-hr. operating year. Amortization for the modernization is estimated at 3¼ years.

If new spinning had been installed and all other equipment adjusted for maximum production, it is estimated that production would have been raised another 10%. Savings would have been greater, although cost of modernization would have been more.

Feeds and Condensers Are Added

Eastland Woolen Mill, Inc., Corinna, Me., has modernized its carding operations by installing automatic feeds and tape condensers. Other improvements include installation of new equipment in practically all departments. A new building has been completed and new boilers and a water tower installed.

Roving is more even and packages are larger than the ones previously made. These factors are reflected in better spinning yarn and improved quality of fabrics. The mill produces about 9-million yds. of assorted woolen fabrics annually.

Another mill in the Striar group, Ski-Land Woolen Mill, Clinton, Me., is modernizing picking, carding, spinning, spooling, dressing, and weaving. Current objective is 17 new card sets.

SPINNING

Trenton Buys 16,000 New Spindles

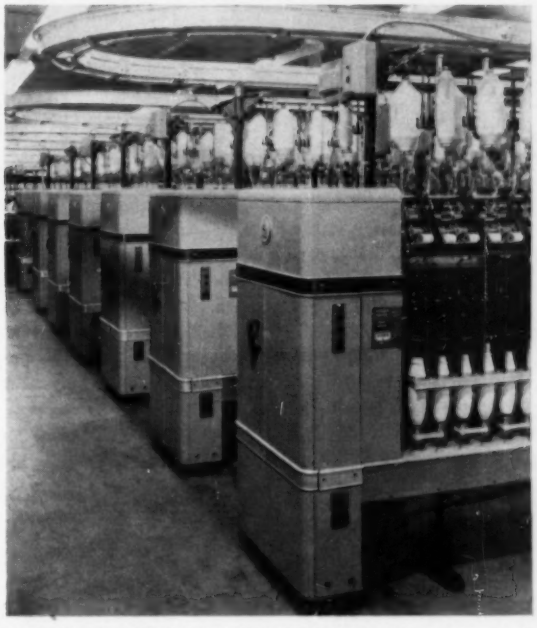
Carding and spinning modernization has increased over-all production and reduced manufacturing costs substantially at Trenton Cotton Mills, Gastonia, N. C. The improvements, which cost more than $750,000, nearly doubled manhour production and improved quality greatly.

Trenton, the oldest mill in the Gastonia area, produces about 50,000 lbs. of 30s to 50s yarn weekly. Up to four-ply yarn is put on cones, tubes, skeins, dye tubes and springs, ball warps, and section beams.

End products are largely sewing thread and rubber-covering yarn. Since these products require high tensile strength, California cotton is used exclusively.

Old spinning frames were replaced with 49 new 3½- and 3¾-in.-gauge spinning frames to bring the total spindleage to 16,776. The frames have 9- and 10-in. traverses, 216 to 288 spindles, 2-in. double adjustable rings, two-apron drafting, antifriction front top rolls, open creels, suction cleaners, and overhead traveling cleaners.

All roving is run double at the creel. For 40s yarn made from 2-hk. roving, draft is 40, traverse 9 ins., front-roll speed 145 rpm., twist as specified, spindle speed 10,300 rpm., traveler 6-0, traveler change 150 hrs. (average), bobbin size 5 oz., and ends down 20 per thousand spindle hours.



EXTRA-LARGE-PACKAGE SPINNING FRAMES have cut payroll cost in half in many mills.

New Spinning Improves Quality

As part of its $1½-million modernization program, Glenwood Mills Div., Mayfair Mills, Easley, S. C., modernized its spinning department by installing new equipment and reworking old equipment.

New machinery includes 24,000 spindles for warp spinning. These frames are located on the third floor adjacent to the spoolers and warpers. Auxiliary equipment added includes overhead cleaners and a pneumatic end-collection system.

Filling spinning also is on the third floor at the east end of the building. Filling spinning is being continued on 8-in. bobbins in the interest of higher quality. Warp yarn is put on 10-in. tubes.

After filling bobbins are doffed into glass-fiber boxes at the spinning frame, they are not handled again manually. An automatic conveyor station in the spinning room lowers full boxes of filling to the weave room and returns empty boxes.

Batteryhands slip the boxes off a gravity-roll conveyor onto their trucks. This way of handling filling has significantly reduced soiled and broken filling.

Rebuilt Frames Reduce Labor Force

Russell Mfg. Co., Alexander City, Ala., cut yarn cost substantially by rebuilding spinning frames and improving mechanical cleaning systems. The mill produces about 94,000 lbs. of 16s to 40s combed warp yarn per week.

Spinners now run 34 228-spindle sides, compared with

20 sides formerly run. Here is a breakdown of the spinning-room labor force before and after the changes were made:

Operators	Before	After
Cleaners	10	5
Sweepers	9	3
Spinners	39	24
Doffers	12	9
Frame cleaners	6	3
Oilers	2	1
	78	45

One of the more-important changes made at the spinning frames was installation of the double-apron drafting system developed by Russell. Antifriction front rolls and spring weighting were put in.

Ball-bearing spindles were added, and creels were changed to hold 10x5 roving packages instead of 8x4 packages.

A new type of traveler cleaner (patented by Russell) that covers 15 to 20% of the traveler surface was attached to the new 2- and 2½-in. rings.

The immediate effect of the changes on the quality of 40s combed yarn is shown here:

	Before	After
Evenness (CV)	16.9%	14.5%
Ends down	30 to 40	15 to 17
Break factor	2,309	2,500

Other spinning improvements that helped spooler operations include the use of a condenser between the front and middle top roll to reduce fly. An automatic frame-and-floor cleaner, designed and built by the mill in cooperation with a machinery manufacturer, keeps the yarn cleaner.

Before the spinning changes were made, defects per 1,000 yds. at the spooler averaged 0.07; the figure now is 0.03. After the improvements, defects caused by fly dropped from 25% to 12½% of total defects. Sloughs fell from 5% to 0.1% and slugs from 10% to 1%. Production increased from 8,000 to 10,000 lbs. a day for the two spoolers.

Spinning Frames Are Rebuilt

At Fulton Cotton Mills, Atlanta, Ga., Mill 1 has rebuilt 99 warp spinning frames. Extra-long-draft change-overs were installed, all bottom steel rolls were reworked, and umbrella creels were added. New overhead cleaners were installed. Front-roll speed is 126 to 176 rpm., and draft is 17 to 24.

For coarse filling yarns to be rewound, 24 4-in.-gauge warp spinning frames were rebuilt for 12-in. paper bobbin packages. They have new antifriction spindles, cap bars, nebs, and oilless saddles. Yarns made range from 3s to 7.7s.

These frames have the latest overhead cleaners with both blowing and vacuum action for cleaning the ceiling, frame, and floor.

There are 48 spinning frames of 3-in. gauge with extra-long draft for 7.7s to 26s filling yarn. This yarn is spun directly to filling bobbins. Bobbin packages are 8¾x1½ ins.

Three new winders and six quillers were added to rewind all coarse filling yarns of 3s to 7.7s. This equipment handles all yarn from the 24 4-in.-gauge spinning frames.

Improved Spinning Upgrades Yarn

Breaking strength and yarn appearance have been upgraded substantially by improving manufacturing and inspection procedures at Borden Mfg. Co., Goldsboro, N. C.

The 20,604-spindle mill produces carded sales yarn ranging from 6s to 10s extra-soft twist and 8s to 30s warp-twist and knitting yarn. Production is about 125,000 lbs. per week. End products are mostly underwear and hosiery.

The 83 spinning frames, recently modernized, have new drafting, builders, and suction cleaners. Umbrella creels were put on one group of frames to make cleaning easier.

For the soft yarn, spindle speed ranges from 3,000 rpm. for 6s to 8,000 rpm. for 30s. The 1-in. front rolls turn about 5 rpm. faster than standard, or from 150 to 185 rpm. Twist multipliers range from 2.50 to 3.25. Total draft is 25 to 32, and break draft is 1,283.

Ends down are from 24 to 28 per thousand spindle hours. Evenness for the 6s is 8 to 9%; for the 30s, it is 13 to 14%.

Frame improvements, including an increase in ring size from 2½ to 2¾ ins., increased the net weight of yarn on the bobbins from 4½ to 8 oz. Supply packages are 12x6 and 10x5.

Woolen Mill Spends $3-Million

Eastland Woolen Mill, Inc., Corinna, Me., and an associated plant, Ski-Land Woolen Mill, Clinton, Me., have a $3-million modernization and expansion program under way.

At Eastland, 32 new wool spinning frames have been installed to produce yarn for weaving into popular-priced fabrics for men's, women's, and children's outer garments. Fabrics range from 20 to 34 oz. per yd. and are made in a large assortment of weaves, patterns, and colors.

The new 7-in.-gauge spinning frames have 160 spindles, 5½-in. rings, and a 12-in. traverse, the widest gauge and largest rings generally used in woolen mills.

Frame equipment includes roller-bearing spindles, adjustable back bars, antifriction-bearing drawing rolls, and tape-tension pulleys in place of the balancing cylinder.

At Ski-Land, the program calls for the installation of 20 new spinning frames and replacement of equipment in most other departments.

Textured-Yarn Mill Expands

Belmont Throwing Corp., Belmont, N. C., is completing

a $400,000 modernization program and has added two new sales distircts.

Specializing in the production of stretch and textured yarns, Belmont has tripled production during the last three years. Pounds produced per manhour have gone up 50%, and rejects have dropped to less than 1%. Just recently, the company announced a 7% wage increase. No lost-time accidents have occurred during 9 of the last 10 years.

Thirty-three new stretch-yarn machines with a total of 6,540 spindles were recently installed for the production of Fluflon, and these spindles are humming seven days a week. End products are hosiery, underwear, leotards, dress fabrics, and automotive upholstery.

Before this equipment was installed, stretch yarn was made by redrawing the yarn onto a twister bobbin, twisting the yarn on a twister, twist setting with high-pressure steam, redrawing to another twister bobbin, and back twisting. All of these operations are now performed on a single machine.

These machines were designed to run at a spindle speed of 21,600 rpm., but Belmont runs them in excess of 40,000 rpm. This speed is maintained by paying constant attention to the "Three Ts"—tension, twist, and temperature.

Despite the heat thrown out by the thermal units, room temperature is maintained at 80° F. Relative humidity is 60%.

Lofted Saaba yarns are made on new machines from Fluflon that is downtwisted through a heating zone at 415° F.

Waste Control Cuts Spinning Costs

A large cotton mill recently modernized its waste-control program and is saving over $52,000 a year throughout the mill. A substantial proportion of this saving is in the spinning department. Here's how the overseer of spinning and yarn preparation approached the problem:

The overseer keeps a close check on his section men and holds weekly meetings where waste activities are discussed. He does not attempt to pinpoint the waste made per operator as is done in other departments of the mill.

Out of these meetings have come suggestions that have resulted in real savings. For example, nearly $9,000 was saved in the quilling department alone by adding two extra spindles on the Abbott quillers and using them to fill up bobbins that were not full when doffed. Bobbins less than half full formerly went into the waste bin.

A similar operation was worked out at the beam twisters, where $2,200 worth of good thread was saved. Beams, formerly pulled off when they were less than half full, are now tied in.

Over $1,200 worth of tangled yarns was saved by having doffers report tangles immediately to the section man instead of letting the frame run until the section man made his routine check.

Although Pneumafil waste was up because of the bad cotton crop, there actually would have been a considerable saving here had normal cotton been spun because of recently installed cycle spinning. Each spindle is checked every 20 mins., whereas formerly ends remained down much longer.

Cooperation between the spinning and weaving departments resulted in saving $8,275 in slasher run-outs and $4,130 in quill stripping.

Mill Stresses Production Control

Woonsocket Spinning Co. spins luxury yarns from high-quality all-wool fibers or wool blended with vicuna, cashmere, angora, camel hair, alpaca, mohair, and other specialty fibers. To process fibers of this type, the mill is continuously improving its machinery and processes. Preventive maintenance is stressed.

The company operates 14 spinning frames that have a total of 2,800 spindles. The newest 4½-in-gauge frames have 200 spindles and 3½-in. auto-lubricated rings.

The yarn is conditioned and the twist is allowed to set. Slub catchers for coning are set at 0.007 to 0.015 in. to remove the smallest imperfections. Yarn is twisted, reeled, or spooled. The type package is specified by the customer.

Color matching is done under special lighting, and a color-reference department is maintained. Sample cones are stored in lightproof boxes to assure exact conformity for successive orders of the same yarn.

Quality Control Is Modernized

An 80,000-spindle cotton mill modernized its quality-control methods in the spinning room by installing the ratio-delay system of counting ends down.

Ratio-delay is a system for making random observations of operating conditions in a given area and determining from these observations the average operating conditions within that area.

Tangible results are big savings in direct labor cost and waste, and intangible savings are considerable. The system has proved to be 95% accurate as compared with conventional methods.

SLASHING

Mill Has Newest Starch Handling

A new slashing development that's going into production for the first time this month is a bulk-starch handling system at Fulton Cotton Mills, Atlanta, Ga., that receives bulk starch from a motor truck.

The only mill equipment is a 40,000-lb.-capacity bin and a screw conveyor running from this bin to a slurry tank.

With the system, Fulton is saving in three ways: (1) unloading the boxcars, (2) further inplant handling, and (3) cost of starch used.

Based on Fulton's former consumption of starch per year and the savings in labor costs, this equipment will pay off in 3½ years.

Heavy-duty headstocks and tailstocks have been added to the four slashers Fulton plans to keep. These slashers also have new creels and drives. A double head was

added to one slasher to run light yarns to double output.

Considerable savings are also being made in maintenance by adding Sizeometers.

Enka Has New Slasher Controls

Results from a new slasher-control system at American Enka Corp., Enka, N. C., look like a sheet torn from an electronics catalog. The system controls moisture in warps within 0.25%, records the content for five slashers, and gives a running record of slasher downtime.

Instead of recording the moisture regain, as with a common recorder, this one records both moisture regain and slasher downtime for five slashers on one circular chart. With it, a slasher operator can see clearly (1) his production lags for each slasher and (2) when and how long they occurred.

The multirecord recorder is equipped with a special apparatus and moisture controls that permit the recorder to track down the moisture and downtime in special zones and in individual colors on the chart.

At Enka, the recorder is located centrally in the group of five slashers so it can be checked frequently by operators and supervisors. But it can just as easily be located a long distance from the slashers in the plant manager's office or at any other point.

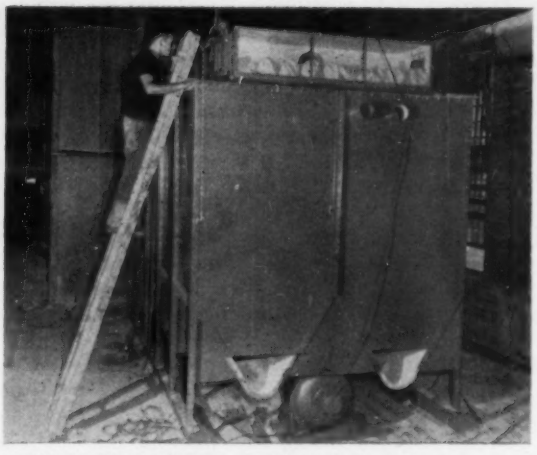
Daily chart work at Enka is reduced to one-fifth, and interpretation is easier. Supervisors see at a glance a great amount of needed data.

Robert W. Kirby of Enka's plant engineering department says, "We have made steady progress with the new instruments. And although the five slashers run 100 to 105 yds. per min., the big advantage is in yarns of constant 11% moisture regain.

"There's also less maintenance than on old instruments. Two slasher tenders operate three slashers as before, but their jobs are easier now."

Enka slashes Tyrex yarns usually beamed 152 to 160 ends per beam. Yarn ends come from individual cones at a creel.

The yarn sheet goes through two sets of squeeze rolls in the size box. Then it's dried on 11 slasher cylinders. A slasher delivers four slashed beams at once on normal warps.



NEWEST DEVELOPMENT in slashing is bulk-starch storage and handling from a motor truck. The only mill-owned equipment is this bin and a screw conveyor to a slurry tank.

Glenwood Has a New Slasher Room

As part of a $1½-million modernization program completed this May, Mayfair Mills' Glenwood Div., Easley, S. C., installed two nine-cylinder slashers that are running at 100 yds. per min. Controls are fully automatic, and the slashers have to be operated only two shifts to keep the weave room running three shifts.

The slasher room and drawing-in room are on the ground floor next to the weave room in a rebuilt area occupied many years ago by the mill steam engines.

Sizing materials are taken from boxcars and stored in the size-preparation room just a few feet away. Size is prepared, homogenized, and stored in this department in all-new equipment.

Mill Runs Slashers 155 Yds. per Min.

One mill runs multicylinder slashers on 80-square fabrics 100 to 155 yds. per min. To run its slashers at this speed, the mill keeps its slashers in as near-perfect mechanical condition as possible. In addition, slasher settings and size are very closely controlled.

At the mill, weave-room efficiency is higher at this slasher speed than at the former lower speed.

Size pickup is 12½%. After desizing, 8 to 8½% size is in the cloth.

Moisture content is 8%, and there's no trouble with soft warps in weaving. But at 8½%, there were soft warps.

WEAVING

Dan River Has 150 Shuttleless Looms

Dan River Mills, Inc., Danville, Va., has installed 150 Draper shuttleless looms in its Schoolfield Div. to weave pillowcase fabrics. The looms are 50 ins. wide and operate at 220 ppm. or above.

The looms use two 5- to 6-lb.-capacity cones for a continuous supply of filling.

Basil D. Browder, executive vice president in charge of manufacturing at Dan River, says: "The units permit us to spin filling on warp spinning frames and eliminate filling conditioning and handling of quills. Now the spinning department concentrates on turning out big filling

packages and not small quills.

"The machine is an excellent example of simplification with the shuttle and picking motion eliminated. Maintenance is expected to be substantially less than with conventional looms.

"Studies have indicated that the elimination of the shuttle and the smoother operation of the shuttleless loom compared with conventional looms make it easier for the weaver and a weaver can tend more looms.

"Up to now, the loom has been used only on four-harness patterns, but there's no reason why it will not weave 6-, 8-, 10-, and even 12-harness patterns.

"The loom weaves fabrics with a true selvage on one side and with the other side tied in with about ¼ in. of filling protruding. However, this fringe is not a problem with pillowcase fabrics. No doubt, a satisfactory selvage can be worked out for fabrics that require one.

"The Danville Div. has more than 8,000 looms, and these 150 shuttleless looms might be the forerunner of additional installations."

Glenwood Rebuilds All Its Looms

Glenwood Mills Div., Mayfair Mills, Easley, S. C., modernized all looms in its plant early this year. Only 16 looms were added at the mill, but over-all fabric yardage was increased 8%. But Glenwood's greatest gain is in higher-quality fabrics.

Looms were rebuilt and motorized. The new section of the weave room has glazed-tile walls, continuous-row fluorescent lamps, Kalman-treated concrete flooring, and evaporative air changing.

Now Glenwood is producing annually over 35-million yds. of print-cloth construction ranging from 60x48 to 80x80 in 39- to 45-in. widths. End uses of the fabric are fine dress goods, industrial fabrics, coated fabrics, and handkerchiefs.

The weave room is now one complete room with 1,278 rebuilt looms all on the first floor. Looms are E-model. Speed is 172 ppm.; speed before rebuilding was 162.

Loom efficiency is 97½%, and seconds are below 2%.

Warps are retied in the weave room with a new portable tying-in machine that ties a full warp in a single hand.

Presently weave-room temperature with evaporative cooling is being held at 80° F., and relative humidity is 78%.

Cloth is doffed at looms in minimum 250-yd. rolls and is taken to the adjoining cloth room.

Unifil Increases Loom Speed

A Georgia cotton mill installed 100 Unifil loom winders with such good results that it quickly ordered 250 more units.

But the mill is expecting even better cost reduction with smaller shuttles that have permitted an increase in loom speed of 15 ppm. Even without the loom-speed increase, the winders are expected to pay for themselves in 3½ years.

Looms are 54-in. XP-Special with both cam and dobby harness motions. They are running at 165 ppm. The looms have single-side-fork filling stop motions.

Fabrics woven are drills, twills, drapery materials, and others. Filling is 4s to 22s cotton. Some filling is three-ply. Filament man-made fibers have also been run. Other filling has been as low as 3s. Now most filling is 22s.

The old method of handling filling was to rewind it at conventional filling winders.

Fabric quality and loom efficiency with loom winders have not been changed. And there aren't any more mispicks than formerly. Kinky filling has decreased.

When loom winders were installed, the size of filling packages at the loom was cut in half. Therefore there are twice as many filling transfers at the loom, but there aren't more filling breaks at transfers because filling packages are smaller. Since there are only 14 bobbins per loom, broken bobbins have been reduced a lot.

There has been no increase in loom-parts cost with loom winders.

Weaver job assignments were cut 10%, and there's an employee to creel the filling supply packages. Loomfixers have the same number of looms, but one winder-head fixer was added.

Greater cost returns are expected if present experiments on increased loom speed are successful. Ten Unifil-equipped looms were changed to smaller shuttles and lay ends at a cost of $25 per loom.

On these looms, speed was increased from 165 to 180 ppm., and the looms run better at 180. Parts have been ordered to speed up 20 more looms.

Unifil Helps on Cotton Fabrics

A second Georgia cotton mill has 100 looms on Unifil. Filling was formerly wound from large-package spinning to conventional winding machines. The winders will pay for themselves in 3½ to 4 years.

Looms are 44-in. X-2 with dobbies. Speed is 184 ppm. Looms have double-side-fork filling stop motions.

Only one fabric is being woven, Type IV 1.39 cotton twill. Filling is 13.5s.

SHUTTLELESS LOOM increases loom speed, reduces loom maintenance, and makes the weaver's job easier. Six installations are in mill production.

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There's one winder fixer for the 100 looms for three-shift operations, and there are three extra unit heads. For 500 looms when that total is reached, plans are to have one winder fixer on each of three shifts.

A new development at the mill is increasing speed on two looms from 184 to 194 ppm. by putting in smaller shuttles from old E-model looms. These looms run as well at 194 ppm. as at 184.

Mill Adds 15 Narrow-Fabric Looms

In narrow-fabric weaving, Chatham Mills, Inc., Div. of Artistic Weaving Co., Pittsboro, N. C., added 15 new looms for weaving labels. In addition, some of the 101 older looms were rebuilt so that all loom parts now used at the mill are standardized for less downtime for repairs and smaller inventory of parts.

The new looms weave tricolor patterns, and Chatham now produces a wider range of woven labels in greater quantity.

The new looms have high-lift ball-bearing jacquards. The loom frames are heavier than those of the older looms, and many of the gears and levers in the batten motion have ball bearings or needle bearings.

The looms operate at 92 to 114 ppm. Although the new looms are designed to operate at higher speeds, they were started at approximately the same speeds as comparative models of the older looms.

The looms have single-space, double-space, three-space, or four-space battens. Labels contain from 64 to 900 ends each. Most of the warp yarn is 100-den. rayon, but 100/2 cotton yarn and metallic yarn are also used. Rayon filling yarn varies from 75 to 300 den.

Nylon quills are being tested. These quills hold about 33% more yarn than the conventional wood quill, but some changes are to be made before nylon quills are adopted as standard.

Avondale Widens Looms 12 Ins.

At its Pell City Plant, Pell City, Ala., Avondale Mills modernized the weave room by converting 312 X-model looms from 32 to 44 ins. wide to weave denims of any weight. Warp-yarn-beam heads on these looms were changed from 24- to 28-in. dia.

Work on the looms was done in the mill. Looms were moved out of the weave room a few at a time. The electrical conduits and a new floor were laid, and the looms were moved back for rebuilding.

New parts were used where needed; and all looms were equipped with new lays, take-up rolls, breastbeams, shuttle boxes, binders, auxiliary camshaft motions, and clock-spring-top harness motions.

These looms are now weaving denims at 172 ppm. Loomfixers have 89 looms per section.

Attachment Improves Loom Operation

Judson Mills, Greenville, S. C., is using an improved let-off very effectively in large volume in its man-made-fiber division.

Now Judson is moving ahead in weaving fine man-made-fiber fabrics with the knowledge that its fabrics will be nearly free from wavy defects. This common fabric defect has been virtually eliminated by the installation of 971 positive loom let-offs.

Judson's let-off installation began five years ago with only six trial units tested by its machinery-evaluation program. Today the let-offs are on all looms in the man-made-fiber mill weaving fabrics that tend to be wavy; there are 267 on 56-in. S-6 looms and 704 on 50- and 64-in. XD looms.

The first units were shifted from a trial basis to looms that constantly made wavy cloth, and every loom equipped with the positive let-off stopped making wavy cloth immediately.

So, loom by loom, Judson moved to a major let-off installation and elimination of wavy cloth.

Beaumont Weaves Cotton-420 Nylon Blends

Beaumont Div., Spartan Mills, Spartanburg, S. C., an old-time weaver of all-cotton fabrics, expanded to man-made fibers this year by adding blends of 25% 420 nylon and 75% cotton to its large assortment of woven fabrics. These fabrics are woven on Beaumont's newest looms, which were installed this year.

Beaumont weaves the 420 nylon-cotton blends with the same loom speeds, weaver assignment, and general settings used on all-cotton fabrics. The big difference is in slashing the warps. With correctly slashed warps, 420 nylon-cotton blends run a little better at looms than cotton warps.

Beaumont is weaving this fabric: 25% 420 nylon and 75% cotton, five-harness sateen, 44½ ins. wide, 108x36, and 1.36 yds. per lb. Weave-room efficiency on this construction is 90%, and second-quality fabric is below 2%.

Fabric Has a Good Cover

The fabric is woven on 50-in. X-2 looms with center-fork stop motions and six-bank electric warp stop motions.

Filing bobbins are 8¾ ins. long. Loom speed is 185 ppm., and weavers have 36 looms.

The harness motions are clock-spring tops with auxiliary tape-selvage motions.

The fabric construction itself results in a good natural fabric cover; but these settings are used to assure the best cover: (1) harnesses are timed to cross 2 ins. before the fell of the cloth, (2) the whiproll is set fairly low, and (3) the whiproll cam is timed just over its highest point with the lay at front center.

The weave room is equipped with an air-changing system. Temperature is 80° F., and relative humidity is 88%.

Only grease is used on the looms; no oil at all is used. As a result, woven cloth is all but free of lubricant stains.

The nylon-cotton blend sheds more at the loom than all-cotton fabrics. But looms are blown off only every 24 hrs. as on all-cotton weaves.

TUFTING

Croft Develops Textured-Nylon Carpet

A new carpet made of bright high-tenacity Caprolan filament fibers textured by a combination of two methods was developed by Croft Carpet Mills, Inc., Fort Oglethorpe, Ga., to expand its sales.

To develop the textured-yarn carpets, Croft had to overcome several production problems not previously encountered in tufting.

Perhaps more important than any new method used at Croft in tufting the textured yarn is a wave attachment also developed at the mill and placed on tufting machines. A spiked rod is added to contact the jute backing near the needles. The rod pushes the backing back and forth under the needles so that the tufts are made in irregular rows.

This tufting method gives over-all fiber distribution to the carpet face to prevent open spaces. The result is a cut-pile carpet with an extremely smooth, even face.

Carpets are tufted 12 ft. wide in 100-yd. lengths and 15 ft. wide in 90-yd. lengths.

The textured fiber is creeled at tufting machines direct from packing cases in its relaxed form.

The yarn is 2,100 den., and 1,230 ends are creeled on straight needle-bar machines of $\frac{5}{32}$-in. gauge. Machine speed is normal for the 600-rpm. machines.

The carpets are tufted with the cut pile $\frac{9}{16}$ in. long at tufting. In finishing, the pile drops to $\frac{5}{16}$ in. Face yarn is 36 oz. per sq. yd. on a 12-oz.-per-sq.-yd. jute backing.

Here's Croft's thinking back of its development as explained by Nolan D. Helms, vice president: "We're looking for a fiber to be used season after season with (1) adequate constant supply, (2) reasonably constant cost, and (3) great wearability."

Forrest Mills Expands Five Times

Forrest Mills, Inc., Calhoun, Ga., a tufted-carpet manufacturer, has expanded five times since it was originally built. The latest expansion is an addition to finishing and shipping departments.

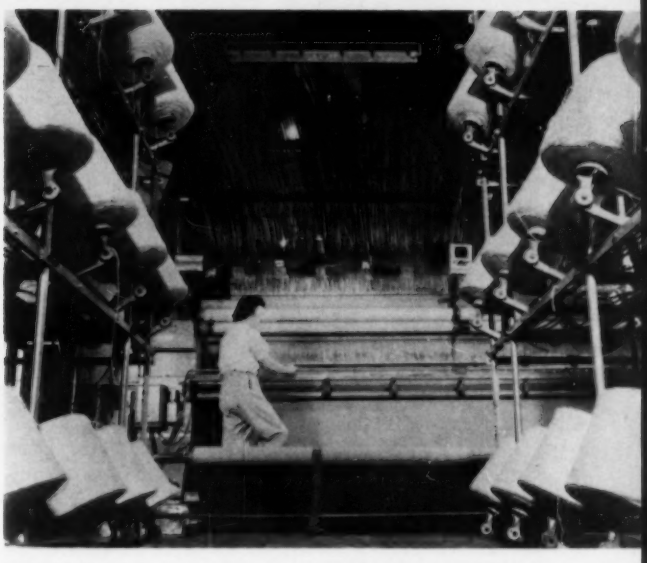
The newest machine in the plant is a 1,200-needle pattern machine for 15-ft. carpets. Three other machines make 15-ft. carpets, and two make 12-ft. carpets.

Yarns used by Forrest are heat-set nylon, solution-dyed rayon, cotton, and wool. All yarn is either two or three ply.

Backing material is 10-oz. jute.

Stock-dyed and solution-dyed yarns are used for much of the carpets, but some carpeting is piece-dyed.

For dyeing, carpets are sewed endless in 200- to 400-yd. lengths in the dyebecks. The dyeing cycle is 2½ hrs. Width shrinkage is about 10 ins.



NEWER YARNS took over this year to keep tufted carpets ahead of woven carpets.

Temperature in a gas-fired drying oven is automatically controlled with the speed. Nylon is dried at 200° F., and other fibers are dried at 300° F. Average speed is 12 ft. per min.

The latex-drying process is also controlled automatically for temperature and speed.

Minette Mills Makes Tufted Bedspreads

Minette Mills, Grover, N. C., produces 17,000 tufted bedspreads a week. For its tufted production, 50,000 yds. of cotton backing fabric are used weekly.

The ground design is made by tufting machines that operate at 100 yds. per hr. The overlay designs are then made on machines that use up to four needles. The machine operators follow a pattern outlined in chalk that is made on the backing before the ground design is tufted.

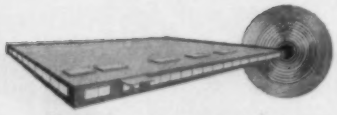
Special machines automatically make floral designs and fringe loops. Yarns of different colors are used to make the overlay designs.

About 15% of the yarn that is used in tufting is made from special crimped viscose staple; the rest is cotton ply yarn.

The bedspreads are finished in tumblers that wash out the chalk designs and fluff the yarn in the tufts and in the fringe loops. There are two tumblers of 100-lb. capacity and 12 tumblers of 30-lb. capacity each. When the bedspreads are finished, they are packaged in individual polyethylene bags. The bags are held open by air pressure while the spreads are inserted; then the bags are sealed electronically.

Minette has a line of bedspreads that it makes to order for one of the country's biggest house-to-house merchandising firms. These products are personalized bedspreads for children with the child's name as part of the design.

These bedspreads are made as orders are received and are mailed by the mill directly to the customer.



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NONWOVEN FABRICS

In modernizing, nonwoven manufacturers in general are substituting engineered machines made by machine manufacturers for homemade machines much used until recently.

Only big companies are going into nonwovens now because a successful operation requires an investment of $½-million. The biggest market left is for engineered fabrics, and a strong sales organization is necessary to open this market. The present market in cheap disposable nonwovens is well supplied by established manufacturers, which further discourages new plants.

This movement toward substantial companies is accentuated by Avondale Mills' recent purchase of the nonwoven machinery from Buck-Felt, Inc., Siluria, Ala., which is increasing Avondale's Plastavon Div. nonwoven production 50%.

This newly acquired equipment includes air-deposition of fibers for unoriented placement. This machinery was made by a machinery manufacturer and supplements other equipment designed by Avondale for unilateral strength.

The new machines are making fabrics 56 ins. wide and are producing a wide range of natural and man-made-fiber fabrics.

Other Companies Enter the Field

Other activities by old-line chains of weaving mills indicate this trend toward large manufacturers: (1) J. P. Stevens & Co. has joined Kimberly-Clark Co. to form a $5-million subsidiary, Kimberly-Stevens Corp., to make nonwovens; and (2) Dan River Mills has set up a nonwoven division.

A successful operation requires several men with technical ability. A typical plant, for example, needs these men: plant manager, plant superintendent, technical adviser, plant chemist, overseer, and sales engineer.

Many established manufacturers are spending all their profits in an effort to develop a fabric with valuable characteristics of its own rather than a cheaper substitute for woven or knitted goods.

The present better nonwovens are answering definite needs of either price or performance.

In the filtration field and for interlinings, nonwovens have proved better than woven fabrics. But in manufacturing cost, the better nonwovens are not cheaper than wovens and often are more expensive.

Foreign Countries Are Active

Foreign competition too is strong. Already Italian and French manufacturers have successful plants with adequate know-how, and at least one Italian textile man is looking toward South American production.

In England, nonwovens date back several years. At the International Textile Machinery Exhibition last October, the first complete English-made nonwoven machinery line was shown. It produces nonwovens of man-made, jute, and other fibers in one run.

Other European countries have sizable nonwoven installations, some with the aid of American manufacturers' know-how. Many of them are using American-made machinery.

All present producers make wonderful predictions for nonwoven possibilities for the near future. But they have had to be realistic in establishing sales organizations to sell the products being made today. One successful manufacturer recently sold his plant because merchandising pressure was too great.

The most successful nonwoven manufacturers realize that their products will not make looms obsolete, but they are preparing for what they believe is a growing market in nonwovens to expand present textiles.

Permanent and profitable business for a large number of plants will come only after much fabric research and sales engineering.

Paper Makers View Nonwoven Market

Paper manufacturers are showing as much interest in nonwovens as conventional textile manufacturers because some nonwoven processes are nearer to paper practices than to textile and nonwoven structure is much like that of paper products.

Fabric-reinforced paper is also becoming important. One variation, a fabric-paper combination introduced by a leading paper producer, is being used in tablecloths, napkins, and aprons in both solid colors and checks.

The material is made by bonding rayon scrim, a lightweight open-mesh net-like fabric, between two plies of paper to add strength and flexibility.

Man-Made Fibers Move in Fast

The bulk of fiber used in bonded structures has been cotton and rayon because most of the products available have been best suited for disposable, inexpensive, single-use articles. Now, however, the penetration of man-made fibers like nylon, polyester fibers, and acrylic fibers has resulted in upgrading durable reusable nonwoven materials.

For industrial and home-furnishings applications, man-made fibers are contributing high strength, toughness, resistance to alkalis, acids, and high temperatures as well as dimensional stability, high or low modulus of elasticity as desired, and good electrical properties.

Apparels Need Three Properties

Penetration in the industrial and home-furnishings field has been considerably greater than in the apparel field because aesthetics are of minor concern compared with strength and utility. But apparel applications require good aesthetic properties as well as durability to wear and cleaning.

The key to developing better nonwoven fabrics is in the development of improved binders and bonding technique. The two basic methods today are resin bonding and thermoplastic-fiber bonding. In resin bonding, the most popular method, the resin is applied directly on the web from an aqueous dispersion immediately after it leaves the web-

forming equipment. The resin is usually dipped or padded on the web, dried, and if necessary, heat cured and calendered.

Thermoplastic fibers as bonding agents are used for possible greater durability. With this method, from 10 to 50% of a low-melting thermoplastic fiber is blended with the base fiber prior to formation of the web. Subsequent hot calendering or embossing at a temperature equivalent to the softening point of the low-melting fiber effects bonding.

KNITTING

Lineberger Mills Spends $1½-million

This month Outlook Mfg. Co., Belmont, N. C., completes an expansion and modernization program by installing 250 seamless machines and auxiliary equipment at a total cost of $850,000. And as this program is completed, Knit Products Corp., another mill in the Lineberger group, is beginning a similar program to install 250 seamless machines and equipment to cost $680,000; total cost is over $1½-million.

All yarns for Outlook's seamless stockings come to the mill from Belmont Throwing Corp., also under the same ownership. A full week's supply of yarn is kept at Outlook all the time. Belmont Throwing throws the yarn to Outlook's specifications and packages it in 1-lb. packages by Durometer densities.

As the new knitting machines were placed in production at Outlook, the newest attachments were added to cut all yarns at the transfers to approximately ¼ in. long. Therefore production in subsequent operations is increased greatly.

Another attachment was also added to the machines so that they knit clearer and more-uniform fabric.

New 3¾-in. machines have 400 needles and run at 198 courses per minute. A knitter tends 47 machines.

A Volumet instrument used continuously in the knitting room is doing much to improve length control. A full-time girl operator checks one stocking from every machine every day.

The operator checks the stockings for foot size, leg length, and welt and afterwelt length. She records each checked stocking on a chart that's marked with two lines to show a tolerance of ±½ in. in over-all length.

By adding pneumatic inspecting machines plus gains from the new clippers at knitting machines, Outlook has almost tripled inspecting production: production was increased from 80 doz. per 8 hrs. to 225 doz.

General Superintendent Wallace H. McGinty says: "We've standardized operations throughout our plants from yarn entrance through finishing. New machines and new attachments added to both new and old machines have substantially increased production and have improved fabric quality so that we can predict quality within a minimum tolerance."

NEW TESTING INSTRUMENT in constant use at Outlook Mfg. Co. assures positive control within ½-in. over-all length of all seamless hosiery.

Standard Completes Two Additions

Standard Knitting Mills, Knoxville, Tenn., produces a broad line of knitted underwear, sportswear, and sleepwear for the family. Constant modernization and expansion have given the company greater efficiency in operation.

Standard runs 15s to 30s combed yarns and 6s to 20s carded yarns.

Last year Standard had the highest sales in its 59-year history, and this year sales are even higher with two large plant additions just completed.

Standard's latest expansion consists of a new finishing room (sewing room), a new knitting room, and enlarged warehousing and shipping facilities.

The new finishing room has over 600 sewing machines, and over 650 employees work in this one room.

The new knitting room almost doubles the fabric-production area of the plant; and when remodeling of the old knitting room is completed, Standard expects to have one of the most modern and efficient knit-cloth-production facilities in the country.

The greatly increased floor space for knitting machines enables more than 400 machines to be grouped according to type, size, and gauge. There is more space around each machine for better maintenance, lighting, cloth handling, and cleaning.

The new knitting room has overhead cleaners for both ceilings and machines. New three-lamp 25% upward-component lighting fixtures give 125-ft.-c. illumination.

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New Yarns and Machines Help Shelley

By styling sweaters around new yarns and adding new knitting machines, Shelley Knitting Mills Co., Inc., Philadelphia, Pa., has doubled its production this year; over 150,000 doz. high-bulk, textured-yarn, and acrylic-fiber sweaters were produced.

Most of Shelley's sweaters are knitted on 15 16½-cut machines. Eight 14-cut machines were recently installed to produce sweaters with greater style possibilities.

Other machines of 4½-cut and various flat machines are used to knit bulky-knit sweaters. Single-section full-fashioned sweater machines were converted from 21 gauge to 30 gauge to produce finer-gauge sweaters.

The 14- and 16½-cut machines have 30-in. cylinders, and they operate at 13 rpm. Each machine produces about 100 doz. sweaters per week, and each knitter looks after four machines.

No special devices are used to knit textured yarns, but each feed is threaded to suit the yarn being run to give the best stitch. Practically no tension is placed on the yarn as it leaves the cone.

A development department was opened recently. New fabrics are developed on hand-operated flat machines in this department. New ideas such as fancy collars and necks are developed; and if they are suitable, the new style is tried on the power equipment.

Large Mill Adds New Seamless Machines

Charles H. Bacon Co., Loudon, Tenn., added new seamless-hosiery machines this year to its existing 660 400-needle machines and 26 474-needle machines. Each machine runs at 195 rpm. to produce a stocking in 15½ mins.

The latest attachments in yarn-tension control and stitch-length control are under experimental tests. Some double-feed knitting machines are being installed.

The machines are arranged in rows of 18 machines to form sections of 36 machines. There are four sections of machines across the room and five bays of sections arranged down the length of the 390x48-ft. knitting room.

All nylon yarns are lubricated from a trough that runs along the center of each section of machines instead of individual oil bottles on each machine. Oil is fed to the troughs from a plastic bottle at one end of the section.

The troughs are made from galvanized metal, and they are supported from steel adjustable rods attached to ¾x¼-in. flat-iron pieces resting on the knitting-machine yarn stands. The supporting rods are adjusted to keep the troughs level the whole length of the section.

The troughs are 25 ft. long, and there are two troughs to each section. A plastic pipe between the two troughs allows the oil to flow freely between the troughs.

Tops of oil jars are spot-welded on top of the troughs to feed oil to the yarn. There are oil-feeding stations for leg, welt, and heel and toe yarns.

Hosiery Mill Adds New Examining Machines

Each inspector at a North Carolina hosiery mill examines 200 doz. pairs of stockings each 8-hr. shift. The mill has eight of the new examining machines. Trays of inspected stockings are taken directly to preboarding.

New mill-made attachments for conventional preboarding machines let two operators work together for double output per machine.

A new pairing method has increased over-all production 20% and reduced the time for training new employees 50%.

Stockings are measured for length on a table marked with 10 different-color markers spaced in ⅛-in. increments. Ten rods just above the color markers are marked with identical colors to receive the matched hosiery.

As a result, all hosiery on each color rod is within ¼ in. of the same length, either ⅛ in. up or down. Then when rods are filled, each color is removed separately for well-matched pairs.

Alba Expands Seamless Hosiery

A new addition for seamless-hosiery knitting was built at the Pineburr Mill of Alba Hosiery Mills, Inc., Valdese, N. C. The new addition is a 162x42-ft. two-story brick building and has its roof supported by central pillars that fit in the machine line to leave the aisles clear. The machines are laid out in six lines of 50 on the upper floor.

All knitting machines are equipped with take-up devices to knit even stitches. KN machines have the grab take-up, while the Bentley machines have a series of brushes that control the fabric loops from inside the cylinder.

Inspecting machines are arranged immediately behind the looping machines. One inspector checks the work from three looping machines.

Some inspecting machines have been equipped with clipping attachments to remove ends. Inspecting forms have been moved away from the table; so a tray can be placed between the form and the table to speed production. A counter placed between the form and the table helps the inspector count the stockings rapidly as they drop in the tray.

Stockings to be mended are marked on the ticket and placed in receptacles on the table. A mender works near each inspecting machine and repairs faults. Repaired stockings are then placed in the tray, but seconds and rejects are kept separate.

Upward-component light fixtures arranged down the center of each aisle let ample light reflect on the white-painted ceiling and illuminate all parts of the room. An air-washing system keeps the temperature at 80° F. and the relative humidity at 55%.

Bacon Co. Changes Inspecting Machines

Modifications to inspecting machines and a new seaming method have increased production of full-fashioned hosiery at Charles H. Bacon Co., Loudon, Tenn.

The seamer does not cut the chain between the stockings. Each stocking falls into a chute that guides the stocking into a plastic container positioned under the chute.

By eliminating the cutting of the chain at the end of

each stocking, seamers have increased their production 3 doz. pairs per day. Each plastic container holds about 15 doz. pairs of seamed stockings. At the completion of the lot, the seamer cuts the chain.

When the stockings are ready to be inspected, the inspector puts the plastic container under a feed attachment that has been added to the inspecting machine. She draws the first stocking through a tension device and on the inspecting form.

As she turns the form, a cam on the right side of the machine starts a mechanism that cuts the chain between the stockings on the form and the one held in the tension device.

To keep the second stocking from overrunning, Bacon has added a weight to the tension gate. The throat of the knife that cuts the chain has been opened to make a precise cut between the toe of one stocking and the welt of the next stocking.

Inspectors' production is about 210 doz. pairs per 8 hrs.

CLOTH ROOM

Glenwood Realigns Cloth Room

Coincident with improvements and additions to production machinery, Glenwood Mills, Div. of Mayfair Mills, Easley, S. C., has realigned and improved the set-up in its cloth room. Over 35-million yds. of print cloth pass through the cloth room in a year.

The present layout is arranged so that cloth flows smoothly from weave room to baling press. Cloth is received from the looms in 250-yd. cuts that are sewed together to make rolls of 1,000 to 1,250 yds. according to the weight of the fabric. The rolls move through a brushing and shearing range and are delivered close to the inspection machines. The inspectors check the goods for defects and mark the spot where faults occur.

Then the rolls are put on the back of hookers and folded. The cuts are divided at the seams and each cut is put on the grader's tables by the folder, who has only to turn around to do this job.

When the piece has been graded, the grader slides it off the table onto a conveyor that takes it toward the storage area, where it is placed on a pallet already furnished with paper and burlap.

Full pallets are slid onto the baling platform, the wrappers are put in place, and the necessary steel strapping is applied and tightened after the bale is compressed.

Straight-line movement and a minimum of handling match Glenwood's cloth room with the improvements in spinning and weaving.

New Cloth Rooms Help Arkwright

Modernization of the cloth rooms at Plants 1 and 2 of Arkwright Mills, Spartanburg, S. C., has produced worth-while labor savings and better production and indirectly has been responsible for cutting down seconds very materially.

Both cloth rooms are now laid out so that fabric moves without backtracking. Manual handling of cloth has been greatly reduced by installing monorails, power hoists, and power lift trucks to move goods from weave room to cloth room and from one operation to another in the cloth room.

Goods off the loom average about 200 yds. per cut; and these cuts are made up into six-cut rolls on the stitching, shearing, and brushing range. A power hoist on a monorail is used to drop the rolls behind inspection machines.

The inspection machines are made so that the operator views a considerable length of back-lighted cloth before it actually moves across the inspection table. By this arrangement, defects are more easily seen and caught for marking than when only a short length of goods is visible.

Electronic controls that stop the machine if a thin place over 2 ins. wide occurs in the fabric have been added to the stitching-shearing range. Major defects of this type are cut out as they turn up.

Electronic yardage counters on the folding machines can be preset to stop the machine at any point as the six-cut rolls are folded off. By consulting the over-all yardage report placed on each roll by the inspectors, the folder can set his machine to produce a minimum of short cuts. The folders also stop automatically at seams.

The controls have eliminated the need for constant attention to each machine by the operators; so two operators easily handle the job that formerly required four.

Production in this cloth room is 400,000 yds. per week on a one-shift basis.

Better inspection methods and close grading coupled with daily reports to department heads that pinpoint fault sources have cut seconds very materially at both Arkwright cloth rooms.

The materials-handling layout of the cloth room at Plant No. 2 is slightly different from that at Plant No. 1, but the over-all operating procedure is similar. Production is 260,000 yds. per week.

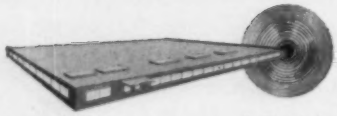
Before the changes, the cloth rooms worked a full shift and required a skeleton crew of about one-third as many workers on a second shift. Now the job is done better in a straight one-shift operation.

ENGINEERING

New Compressor Cuts Plant Gas Cost

To assure an uninterrupted supply of fuel for heating and fabric singeing at an outage of natural gas, Rock Hill Printing & Finishing Co., Rock Hill, S. C., recently installed a sliding-vane-type rotary air compressor. As a stand-by unit, the compressor lets the mill operate without downtime by switching from natural to propane gas.

By the change to natural gas from propane gas formerly used full time, the plant cut its gas cost by 50%. One boiler that furnishes one-fourth the steam demand of the



plant is now on natural gas. This boiler generates 600,000 lbs. of steam per hour.

Before going to natural gas, Rock Hill used six to seven carloads of propane gas per month. Gas costs are now $3,000 per month for mill processing of fabrics in singeing, curing, and a small portion of dyeing; all singeing is done by gas.

Gas cost for the boiler is $27,000 per month on interruptive basis. Processing gas is on a preferred-interruptive basis at a little higher rate.

The new compressor has a capacity of 1,200 cu. ft. per hr.; and to date, only two-thirds of capacity has been used. In a change-over of fuel from natural gas to propane, natural-gas characteristics are met by diluting the stand-by propane supply from 2,400 Btus. per cu. ft. to the equivalent of 1,100 Btus. of natural gas.

Finishing Plant Has New Warehouse

Palatine Dyeing Co., Inc., St. Johnsville, N. Y., recently completed a modern warehouse with materials-handling system. Palatine is a commission-dyeing and finishing company and processes knitted nylon, rayon, and acrylic fabrics. As many as 6,000 cases of unfinished goods are in the warehouse at once.

Palatine's new Quonset-type warehouse is 94 ft. wide and 500 ft. long and stores all goods under one roof that were formerly stored in several warehouses scattered over a 12-mile area.

The building is equipped with cantilever racks that extend to the ceiling. The racks are set up with aisles 6 ft. 8 ins. wide and are serviced by electric straddle trucks.

A conveyor system runs the full length of the building with stations operated by photoelectric cells so that incoming cases of goods can be stopped at any storage section. A master control switch at the loading end of the conveyor lets one man operate all stations.

New Air Conditioning at Greenwood Mills

By installing 10 separate and complete air-conditioning units at its Mathews Plant recently, Greenwood Mills is controlling temperature and humidity closely in four production departments. The system saved $60,000 in original cost and reduced cleaning time 80%.

This mill cards, spins, and weaves cotton fibers and spun man-made fibers.

As a result of machine modernization, the existing air-conditioning equipment did not meet the increased temperature and humidity loads.

This problem was solved by installing a prefabricated factory-built assembly that eliminated the need for erecting additional towers. And with this system, over-all air-conditioning installation cost was reduced $60,000.

The system consists of 10 individual stainless-steel units that hang from the ceilings right in the production areas to be serviced. Each unit has a capacity of 30,000 cu. ft. per min. Installation time was only four days per unit.

Three units are on the third floor for man-made-fiber spinning, three on the second floor for cotton spinning, three for portions of two floors for yarn preparation including winding and quilling, and one unit in the cloth-inspection and shearing department.

The water supply for all 10 units comes from a central supply pumped from the mill compressor room. If the mill decides to add refrigeration later, it will need only to add a water-chilling machine to the present water-circulation line.

New Conveyor Is Fully Automatic

As part of an expansion and modernization program completed in June this year, Standard Knitting Mills, Inc., Knoxville, Tenn., installed a new fully automatic conveyor that runs the full 480-ft. length of the packing and shipping department. The conveyor sorts packages for shipping or for temporary storage and removes goods from storage. It extends to the shipping platform, where shorter telescopic conveyors extend right into highway trucks.

With over 15 acres of floor space, Standard has several other conveyors that join this one. One is in the new finishing room and runs the full length of the building to remove goods made by over 650 employees in this single room.

Electronics Punches Jacquard Designs

An electronic jacquard card-punching machine is helping Albert J. Bartson Co. get a fast start in delivering newer designs in upholstery fabrics. Bartson, with mills in Midland Park, N. J., and Lavonia, Ga., is punching designs electronically for all looms.

With the machine, an artist's sketch is translated directly into jacquard cards without the tedious manual transition from picture to check paper and then to jacquard cards. Within 24 hrs. after a design idea is created, the fabric is being woven at the Bartson mills.

With the machine, punching starts directly from the artist's original sketch. The old card-cutting machines and the operators are eliminated.

In place of the operators, there's one girl who was quickly trained to operate the electronic machine. Within one month she was punching 300 to 400 cards in 8 hrs. She reads the artist's sketch through a high-powered, wide-field, industrial magnifier.

As a reciprocating marker moves over the sketch, the girl touches one of twelve keys that directly control card punching, which is done electronically. Sixteen holes are punched in each card, and four separate cards are going through the machine at once. On multiple-ply weaves all these cards are of different designs.

Designs from a simple-ply damask to a multiple-ply matelassé are possible simply by punching the correct keys. In addition to the fabric design, holes for lacing are punched during the same operation.

FOR MODERNIZATION IN CHEMICAL TREATMENT AND FINISHING, SEE PAGE 71

DYERS AND FINISHERS

lead
the field

Thermostable Diastafor desizing agent leads the field for top performance—for dependable desizing at lower costs.

Different types and strengths are available to meet your individual needs. For high temperature, continuous process operations, select special high potency Diastafor LCD.

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CIRCLE 63 ON READER SERVICE CARD 63

SCHOLLER INTRODUCES AN AMAZING GROUP OF NEW, DURABLE SOFTENERS...

The Creamoyls

The result of more than two years of development and application on millions of yards of fabrics and all fibers...a group of finishes that imparts a wide variety of desirable properties with an ease of application that demands nothing more than required in the usual pad or exhaust methods...

The CREAMOYLS present variations of the same basic finish, each designed to do the very best possible job on each specific fiber and fabric requirement.

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Manufacturers will discover many additional advantages in CREAMOYL finished fabrics: better cutting, more efficient sewing, will not discolor whitegoods on prolonged storage, and increases wash-fastness of many dyestuffs.

The CREAMOYLS are available as modified cationic, anionic, nonionic, and amphoteric systems and particularly recommended for enhanced finish on piece goods, knit goods, sweaters of wool or synthetic fibers, socks, anklets and leotards, non-woven fabrics, stretch yarns and fabrics.

Test samples are available on request. Please specify the fabric and fiber on which the finish is to be applied so that the proper, recommended CREAMOYL may be forwarded.

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Textile World

CHEMICAL TREATMENT AND FINISHING

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new way to improve naphthol crock-fastness

DIAZOPON® SS·837

PREVENTS AGGLOMERATION ■ Diazopon SS-837 affords the naphthol dyer outstanding assistance in improving the fastness to crocking of naphthol dyeings. When used in the dyebath, it keeps the dye finely dispersed. This prevents the deposition of excess color on cellulosic fibers, the principal cause of wet and dry crocking. **ACTS AS SOAPING AGENT** ■ The powerful dispersing and solubilizing properties of Diazopon SS-837 make it an excellent soaping agent for naphthol-dyed stock, yarn and fabrics. In yarn dyeing, it eliminates the need for initial warm soaping because it is active at the boiling point of water. ■ Diazopon SS-837 is a nonionic, almost water-clear liquid, readily soluble even in cold water. It is stable to acids, alkalies and metallic ions. ■ Send for a sample of Diazopon SS-837, and see for yourself how it will improve your naphthol dyeings.

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Diazopon SS-837, manufactured by General Aniline & Film Corp., is sold outside U.S. & Canada under the trade name of "Iguafen® SS-837" by distributors all over the world.

Russians Report Electricity Speeds Dyeing—

Experimental work in Russia indicates that wool dyeing can be speeded up considerably if alternating current is passed through the goods during the dyeing process.

In laboratory trials, current is passed through the goods at two points and led to steel rollers at each of these points. The temperature of the material is increased to 100 to 104° C. at the contact areas, although the dye solutions were maintained at 90 to 95° C.

In the trials, the goods were moved through the dye solution at a rate of about 3 yds. per min. The charged rollers were about ¾ in. apart, and a current of 7 to 8 amps. at 80 v. was used to create the wanted effect.

The dye solution contained 20 grams per liter of sodium sulfate and 5 grams per liter of dyestuff. According to the Russian report, dyeing is speeded up three to five times and costs are lowered by the new method.

New Starch Is Cross-Linker—

A dialdehyde starch that forms chemical bonds with cellulosic fibers is now in semicommercial production.

Experimental work to date indicates that fabrics treated with the starch have lower shrinkage, better crease resistance, and better abrasion resistance. Good film-forming properties suggest that the dialdehyde starch should be valuable in fixing clays, pigments, and other auxiliaries to fabrics when it is used with ordinary starch or cellulose esters. Dialdehyde starch can be combined with urea or melamine to provide useful textile finishes. The starch will be marketed as Sumstar by Miles Chemical Co., Elkhart, Ind.

Vat-Dyeing Problems Discussed—

A round-table meeting of dyers at AATCC's Southeastern Section meeting last month produced some interesting answers to several basic problems that confront vat dyers.

On the subject of high-temperature vat dyeing, in the 180- to 190°-F. range, dyers agreed that dye stabilization, particularly of blue dyes, was a necessity. White corn dextrine is generally favored for this job, but sodium nitrite is also effective in some cases and works better in fairly hard water than it does in soft water.

Dyestuff choice is also important because heat tends to break down some dyes more than others.

There is also considerable difference in the stabilizing effect of white corn dextrines from various sources; one brand may work well, and another may be quite inferior for the purpose. No theories were advanced as to why such differences in performance occur.

Clear, speck-free dyeings depend on several factors, dyers found. Good preparation is important, and mercerizing is considered to be a key operation in preparation.

Dyers prefer goods to be mercerized for dyeing with caustic somewhat weaker than is used to produce maximum luster. Dark shades dye best if goods are mercerized in 25° Tw. caustic; medium shades work well at 30 to 35° Tw.

Mercerizing penetrants were valuable in some cases, dyers felt, but only if they were used in sufficient quantity, say ¾%, to do an adequate job.

The weaker caustic concentrations are desirable for dye preparation because they don't emphasize fiber and fabric imperfections to the same extent as full-strength mercerizing solutions.

Predrying between pigment pad and can or flue dryers that precede the chemical pad is extremely important to the production of clear dyeings, and dyers cited good results with both electric- and gas-heated installations for this purpose. Mineral colors also benefit by a predrying operation.

Dyemakers can go too far in reducing pigment particle size for the dyeing of piece goods, dyers said. Too-small particles give more trouble in migration, and dyes with only moderately small particle size should be chosen for piece-goods applications. Package dyers find the small-particle size more suitable because they resist filtration by the package.

One angle suggested to reduce migration is to speed up the reduction of the dried-in pigment, a method that has been developed by a foreign dyestuff maker. Such colors can be padded on at room temperature and will reduce completely in 20 secs.

For dyes that will tolerate them, certain electrolytes such as sodium acetate added to the pigmenting bath have proved helpful in reducing migration. In this connection, dyers have found that goods that carry small amounts of electrolytes from prior processing tend to dye more levelly than goods that are absolutely clean.

Oxidizing agents of the peroxide or perborate type are favored by most dyers. Bichromate and acetic acid are difficult to wash out and may affect subsequent processing because goods so treated are harder to rewet.

Peroxide, buffered to pH 5 to 6 with acetic acid, is favored at some plants because it is easy to handle and washes out readily.

Dyers agreed too that padding equipment should be chosen to suit the goods being processed.

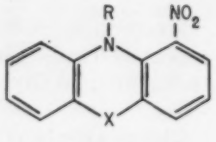
Heavy goods and goods being dyed in the gray will be better penetrated on three-roll two-dip padders. Lighter fabrics can be done satisfactorily on regular two-roll single-dip pads.

Pad rolls for flat goods should be fairly hard, say Manhattan No. 5 density; but whether they should be level, crowned, or dished apparently lies with the individual plant. Terry fabrics require a fairly soft roll that will remove excess liquor from the thinner selvage area.

Steamers and Williams units were compared for level-dyeing properties by the dyers, with varying opinions. Some plants have found that it is necessary to add moisture to steam from modern boiler plants that add super heat to process stream because such steam tends to dry out selvages, which causes side-to-center shading.

New Dyes for Polyester Fibers—

No carriers are needed to produce deep, bright dyeings on polyester fibers with a series of dyes recently developed in Germany. According to British Patent 812,109 to Badische Anilin Und Sodafabrik, the dyes are based on nitroacridone, nitrophenoxazine, and nitrophenothiazine that conform to the general formula



in which X is a carbonyl group or a sulfur or oxygen atom. Substitutions of the hydrogen atoms can be made with halogen atoms and alkyl, alkoxy, or nitro groups. Especially good dyes are produced when an alkyl, aralkyl, or aryl group that contains not more than eight carbon atoms is bound to the nitrogen atom.

These new yellow, bordeaux, violet, orange, and redish-yellow dyes can be applied at the boil in disperse form with or without a dispersing agent. Fastness properties are generally very good.

Bromides Shrinkproof Wool—

Wool fabrics can be prevented from felting and shrinking by treating them with potassium bromide, according to reports from Tel Aviv, Israel.

Dr. Menachem Levin, a member of the Scientific Research Council and head of fiber and forest-products research at Tel Aviv University, discovered the effects of potassium bromide on wool while studying possible applications of the chemical, which is abundant in the Dead Sea.

Wool treated with KBr solutions retains its elasticity, is readily dyeable, and has increased abrasion resistance. The treatment adds about 5% to the cost of raw wool. Trial consignments of bromide-treated wool are to be marketed this fall in Great Britain. The process is State-owned and will be licensed to processors.

High Temperatures Improve Optical Whites—

Optical brighteners applied to hydrophobic fibers reach their full effectiveness only after a baking process, according to researchers at Ciba's Swiss laboratories.

Polyester fibers are particularly responsive to the pad-bake process, in which goods are padded with a solution containing 10 grams per liter of an optical brightening agent such as Uvitex ERN,

dried at normal temperatures, and then baked for 3 mins. at 120 to 150° C. The effect is similar to the Thermosol dyeing process in that the heat opens up the fiber and permits penetration and absorption of the optical brightener.

Polyamide, acetate, and triacetate fibers can be treated in this way with similar good results. The colorfastness and degree of brightening are equal to results obtained by the exhaustion method, which takes much longer.

Seersucker Effect on Wool—

Wool can be given a permanent seersucker finish by a method developed by D. Sims and J. D. Speakman, Dept. of Textile Industries, The University, Leeds, England.

Undyed fabric constructed with 75 ends 2/56s and 70 picks 1/40s worsted yarn in a twill weave yielding 5.0 oz. per sq. yd. was used in the experiments.

To get the effect, the fabric is impregnated in 1% sodium metabisulfite solution of 37% ethylene glycol and 63% water and then fed into a compressive-shrinkage machine. The machine is equipped with a heated top roller that has grooves engraved at right angles to its axis.

The fabric shrinks 12 to 13% in the areas where it contacts the heated roll, and the shrinkage is permanent.

Treated fabric that was soaked in a 0.3% solution of an anionic detergent for 2 hrs. at 40° C., rinsed, and air dried showed no change in dimensions.

The temperature of the heated roll may be as high as 180° C., and other setting agents or alcohols can be used to create the effect.

Did You Know . . .

. . . that it is possible to dye wool in highly alkaline vat-dye liquors? U. S. Patent 2,850,351 to J. E. Moore and C. E. Pardo, Jr., assigned to the U.S.A., describes a method of top dyeing in a dyebath maintained at pH 12.8 to 13.1.

An anthraquinone dye, sodium hydrosulfite, and caustic soda make up the bath. The top is dyed at 120 to 160° F. for 10 to 60 secs. and neutralized immediately after it leaves the dyebath to prevent deterioration.

A protective agent may be used at the upper limit of the permissible pH range. The process can be made continuous and produces shades fast to light and washing.

•

. . . that pilling of fabrics containing polyester fibers can be reduced by chemical treatment? If goods containing from 25 to 95% polyester fibers and 5 to 75% cellulosic fibers are treated for at least 2 mins. at 160 to 210° F. in a solution containing ortho-phenylphenol and meta-cresol, the polyester fibers will shrink at least 18%.

The sum of the percentage of ortho-phenylphenol plus one quarter of the meta-cresol in the liquor may equal 1 to 5.75%.

The cellulosic fibers bunch up on the surface of the treated fabric and absorb most of the frictional forces that produce pilling. A recent U. S. Patent (2,897,042) to John R. Heiks, assigned to E. I. du Pont de Nemours & Co., Inc., describes the process in more detail.

•

. . . that selective bonding of nonwoven fabrics at fiber cross-sites is possible? According to U. S. Patent 2,900,291, assigned to the U.S.A., part of the fibers in a mix are treated with a bonding chemical and the other fibers are treated with another type of bonding chemical. After the fibers are mixed at random, they are subjected to heat; and when the two bonding materials meet at cross-sites they polymerize to form a bond. The heat does not affect either compound separately.

•

. . . that goods that have been bleached with peroxide should be thoroughly washed if tensile strength is to be maintained?

Tests have shown that in poorly washed goods, enough active oxygen remains to cut tensile strength by as much as 10% over a period of time.

. . . that stained whites in cotton-acetate fabrics (acetate dyed) are more often due to dye occlusion than absorption by the cotton? Particles of the disperse dyes often get trapped on the cotton-fiber surface if preparation has not been adequate.

Much better whites on the cotton can be obtained by giving the acetate-cotton goods a very thorough singeing following by mercerization.

The cotton is much smoother as a result of mercerization and doesn't occlude as much disperse dye as untreated fiber. The washing process after mercerization must be controlled so that hot, dilute caustic liquors have only monentary contact with the acetate fiber or partial saponification can be expected. This phase of the washing is not difficult to control on modern mercerizing ranges.

•

. . . that chrome, acid, premetallized, or reactive dyes can be printed on degreased nonchlorinated wool sliver? Vigoureux machines with one or two rollers are used to print the sliver, and the usual steaming and washing process produces the required colorfastness.

•

. . . that you can sterilize wool blankets with SO_2 and not affect the shade? The Div. of Protein Chemistry, CSIRO Wool Research Laboratories, Parkville, Victoria, Australia, has found that if a few parts per million of SO_2 are added to a detergent bath, even badly soiled shrinkproof blankets can be sterilized without serious discoloration even after 40 launderings.

NEW DYES AND CHEMICALS

Disperse Dyes

Foron Ultra-spersed . . . is the generic term for a line of disperse dyes of extremely small particle size that are particularly suited for dyeing polyester fibers.

Seven colors are now available: three yellows, two oranges, a blue, and a scarlet. The range will include thirteen colors by the end of this year.

The dyes have been improved in their fastness to light, sublimation, wet processing, gas fading, perspiration, and crocking.

They are readily dispersible in water, penetrate the fiber well, and do not filter out in package dyeing. Sandoz, Inc., 61-63 Van Dam St., New York 13, N. Y. **(Circle D-1 on Reader-Service Card)**

Softener

Catacrest 100 . . . is a 100% active cationic softener that is substantive to cellulosic and man-made fibers.

The product is offered as an amber liquid that is readily dispersible in water to give low-foaming solutions.

Catacrest 100 produces a soft hand on cotton, rayon, acetate, and man-made-fiber fabrics and it is compatible with urea-formaldehyde, melamine, and cyclic resins. Whites are not yellowed by the softener, and it will not reduce lightfastness of pastel shades or retain chlorine. Crest Chemical Corp., 225-235 Emmet St., Newark, N. J. **(Circle D-2 on Reader-Service Card)**

Cleaning Accelerator

Alka-strip Booster . . . improves the action of caustic, acid, or compounded solutions that are used to clean machines or machine parts. The product acts as a wetting-out agent and a detergent and tends to prevent settling out of residues removed from the cleaned surfaces. London Chemical Co., Inc., 1535 N. 31st Ave., Melrose Park, Ill. **(Circle D-3 on Reader-Service Card)**

Plasticizers

Flexol EP-8 and Flexol EPO . . . are offered as plasticizers for vinyl-chloride resins that are used for coated fabrics, calendered film and sheeting, and electrical insulation.

Flexol EP-8 is 2-ethylhexyl epoxy tallate; Flexol EPO is an epoxidized soybean oil. Both are effective low-cost heat and light stabilizers as well as plasticizers for vinyl-chloride polymers. Union Carbide Chemicals Co., Div. of Union Carbide Corp., 30 E. 42nd St., New York 17, N. Y. **(Circle D-4 on Reader-Service Card)**

Disperse Dyes

Interchem Polydye Colors . . . brands a line of highly dispersed dyes that have been designed for polyester-fiber dyeing.

The colors are equally applicable by carrier or high-temperature methods in jigs, becks, or pressure equipment.

The dyes exhaust well, have good pile-on and leveling properties, and can be applied to raw stock, tow, yarn, or piece goods. Fastness properties are generally excellent.

Dyes now available include several blues, a yellow, scarlet, burnt orange, and violet. Interchemical Corp., Colors & Chemicals Div., Hawthorne, N. J. **(Circle D-5 on Reader-Service Card)**

1959 MODERNIZATION

BLEACHING

Continuous Bleach Helps Lanett

Lanett Bleachery & Dye Works, Lanett, Ala., processes up to 500,000 yds. per week of work-clothing fabrics.

Until recently, these goods were processed by batch methods in the open width. They were singed, desized, and rolled; and after a suitable layover period, they were put on progressive jigs for a caustic boil-off. The boiled-off goods were then transferred to jigs to be bleached.

All this handling has been eliminated by a two-stage continuous peroxide-bleaching range that takes the goods from the gray to the bleached state in one operation. The range uses stainless-steel conveyors rather than J-boxes to hold the cloth in each of the two stages of the process because of the need to keep heavy fabrics at full width.

A prewash after singeing through four wash boxes and a Williams unit is followed by saturation in a 3% caustic solution. The goods then lie on the first conveyor for 45 mins. at 210° F. After a thorough washing, the fabric is saturated with peroxide and led onto the second conveyor, where it remains for 45 mins. at 210° F. Final washing and drying complete the job.

Combination Bleaching Method Catches On

A combination chemic-peroxide bleaching method announced last year [TEXTILE WORLD, Aug. '58, p. 69] has caught on as commercially practical in some plants.

One Southern bleachery has adopted the combination bleaching method for some lines of cotton goods in its new single-stage bleaching range. In this setup, goods are singed, desized, and piled in bins for a minimum of 2 hrs.

They are then hauled into low-tension washers where solubilized starch is removed and go from the washers to a saturator where they pick up a hypochlorite solution. After squeezing, the goods contain about 0.1% NaOCl and are piled in a short J-box from 10 to 20 mins.

From the J-box the goods go directly to the peroxide saturator. The peroxide solution is cut in strength very considerably over what is used for straight peroxide bleaching. The combination method cuts chemical costs and has produced excellent results.

DYEING AND PRINTING

Pad-Roll Dyeing

A dyeing system developed in Sweden is doing a good job for Northern Dyeing Co., Washington, N. J.

The pad-roll method of dyeing offers several advantages. It is virtually a continuous process and is economical of labor and materials, and processing by this system can be put under very close control in many important details.

Northern figures that the pad-roll machine with three dwell chambers betters the production of 12 jigs and can count on 30,000 to 40,000 yds. per 8-hr. day from the machine.

In operation, goods are padded with the dye liquor, led through a heated connecting flue, and then passed into a heat-controlled chamber.

Rolls are built up that contain from 4,000 to 10,000 yds. of goods according to the weight. The dwell chamber is heavily insulated, and provision is made to maintain any desired temperature in the dwell chamber after it has been set aside for the dyeing process to be completed by absorption.

Northern's success with this dyeing method is based on a precise routine that is followed carefully in the development of a new shade or the reproduction of a previous dyeing.

The plant has found that the time element afforded by the dwell period under close temperature and humidity control is particularly valuable in dyeing the hydrophobic fibers.

The big batches are money savers because there is less handling and much less yardage loss from imperfect ends.

Package Dyeing Keeps Pace

Homestead Woolen Mills, W. Swanzey, N. H., modified original package-dyeing equipment and installed two new 500-lb. machines that handle 2½-lb. packages of woolen yarn. Until recently, the usual package weighed a maximum of 1¼ lbs. The change has cut unit handling costs materially at all package-handling points.

The plant finds that package dyeing is a valuable supplement to its stock- and piece-dyeing operations. Not only is it easier to dye deep shades on blends of wool with man-made fibers, but there is also a considerable saving in waste when make-up lots are necessary to complete solid-color fabrics. The losses in time and material

Looks like you need LYKOPON

Trouble on the continuous dye range shows clearly in fluctuations on the electronically-traced Marhen graph. There could be two reasons—a need for LYKOPON concentrated sodium hydrosulfite or the service that goes with it.

For instance, you may actually be using too much hydrosulfite. Rohm & Haas service has uncovered cases where up to 25 percent more hydrosulfite than needed was being used.

But where testing uncovers a need for hydrosulfite, it's usually a clear case for LYKOPON. LYKOPON has uniform strength (94% minimum guaranteed, as shipped). This, and its unusual freedom from dusting, have made it the long-time favorite of textile finishers everywhere.

If you suspect there's more profit in dyeing than you're getting, why not be sure? Ask us for a Marhen test in your plant. Use its findings to get faster dyeing, more uniform quality, better efficiency.

Write today for the facts about LYKOPON and the service that goes with it.

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Chemicals for Industry

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

LYKOPON

when 100 or 200 lbs. of stock has to be dyed and carded are eliminated when such small lots are package dyed.

Automation Helps Hosiery Dyeing

A one-shot operation that takes women's hosiery from gray to finished state with little handling is housed in a new addition at Picolet Hosiery Dyeing Co., Montgomeryville, Pa.

Two automatic hosiery-dyeing units produce 2½ doz. pairs of hose each in a cycle of 8 to 9 mins. Operators do nothing but load the forms with raw hosiery and strip off the dyed and finished hose.

Scouring, dyeing, and finishing materials are all contained in the processing liquor that is made up in a 300-gal. tank. Each batch of hose requires about 6½ gals. of liquor, which is served automatically and discarded after it is used.

The machines have cut production costs and reduced seconds and are capable of reproducing the same shade from batch to batch with considerable accuracy.

Lowell Improves Vat Dyeing

At Lowell Bleachery South, Griffin, Ga., a new predryer has been responsible for a marked improvement in the appearance of vat dyeings on twills and poplins. The unit is an electrically heated infrared generator that is mounted between the pigmenting pad and the drying cans ahead of the chemical pad.

By removing 35 to 40% of the water content of the pigmented fabric, the infrared unit immobilizes the pigment so that it cannot migrate. The ultimate effect is an extremely clear, clean dyeing. Poplins, which are notorious for developing a specky appearance when they are dyed in continuous ranges, are particularly benefited by minimizing pigment migration.

The infrared installation is mounted so that if it is necessary to stop the range during a run, the heating units are cut off automatically and rotated 180° so that cloth stopped in the predryer is protected from excess heat.

Screen-Printing Machines Gain

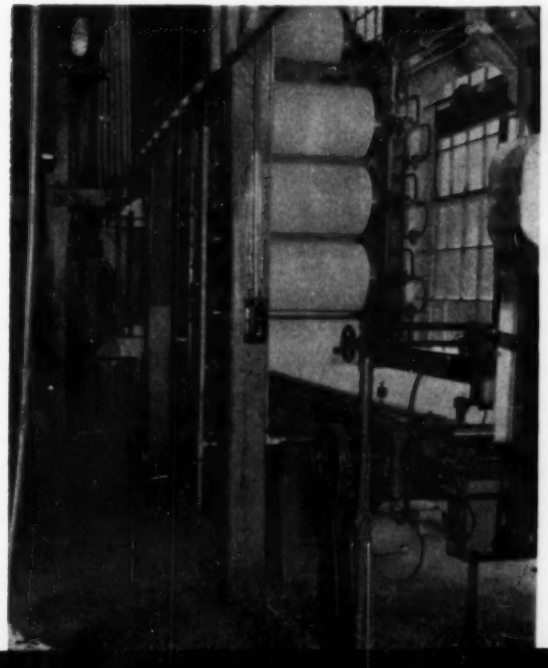
Gsell Textile Printing Co., E. Newark, N. J., supplemented its nine 80-yd. tables with a 10-color automatic printing machine in its recent modernization program.

Several advantages were gained. The machine will produce as much as three printing tables, it takes less manpower to operate, and it occupies about one-fifth of the room required for an 80-yd. table.

The machine is excellent for long runs and can be adjusted to run many types of patterns. Management is now figuring on installing another machine.

A Southern plant now operates three 12-color machines on decorative fabrics and has found that because the screens are positioned more positively by the machines than by hand, wet-on-wet printing is practical. Fine-lined complicated patterns are thus more easily handled at greater speed by the machines.

In both instances, the machines are of European make.



THIS PRIMARY DRYER includes a short tenter that brings partially dried fabric to full width for printing without an extra operation. Two stacks of high-pressure stainless-steel cans provide adequate drying capacity for bleached goods.

FINISHING

Hartsville Boosts Drying

In the past year, USF-Aspinook's Hartsville, S. C., plant has boosted drying capacity over 100%.

The mill was originally set up to handle medium- to lightweight fabrics that are in the 4.00- to 5.00-yd. range. Key drying equipment for bleached goods and printed goods and for finishing was geared to these fabrics. Old-type copper cans working at 15 lbs. steam pressure made up the majority of the drying equipment.

In the past two years the types of fabrics printed at the plant have changed considerably, and now at least half

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the production is in goods that run 1½ to 2 yds. per lb.

The switch to these goods, which are mainly decorative fabrics, cut production potential seriously because drying equipment was inadequate to cope with the added water content.

Drying capacity was beefed up in several ways. The primary dryer from the bleach house has been more than doubled. More and larger cans have been installed over the seven printing machines. Tenter ranges originally set up with eight low-pressure cans between pad and tenter now boast 20 stainless-steel cans that work at 35 lbs. pressure. This change raised the drying capacity of the four tenters 100%.

Resin finishes, applied to nearly 75% of the goods going through the plant, are cured on a separate unit. This setup keeps tenters at highest efficiency on their primary job of drying.

The improvement in drying capacity at the plant has been so great that the original installation of six five-ton kiers has proved inadequate to keep up with printing and finishing capacity. This problem has been solved by adding four 7½-ton kiers.

Good balance of equipment enables Hartsville to produce up to 5-million yds. per month of printed and finished fabric.

Conductive Glass Speeds Curing

Wunda-Weve Carpet Co., Greenville, S. C., modernized its latex-curing unit by shifting from infrared lamps to conductive-glass panels as a heat source.

The original installation, set up to dry and cure latex backings on scatter rugs, had 144 375-w. lamps mounted in a retractable frame. Current drain was 54 kw.

The lamps were replaced with 12 glass panels coated with a conductive metallic oxide. This unit uses 42 kw., about 22% less than the one it replaced.

The radiation that is produced by the conductive glass panels is in the 10- to 20-micron range, and the rug-to-unit distance is not critical.

The efficiency of the unit is higher than the old one; and the somewhat higher installation cost is balanced out by less maintenance, no replacements, and lower operating cost.

Tricot Stabilization Improved

Vitos de Mexico, near Mexico City, is using French-built equipment to dye, set, and finish nylon tricots without very high temperatures.

The critical setting operation is done on perforated beams on which the tricot is wound after being framed out to width. The loaded beams are placed in an autoclave, and water at 120° C. is forced through the tricot for 30 to 45 mins.

The trick in this process is that dimensional stability is kept uniform from inside to outside the roll of goods by driving stainless-steel nails through a supporting collar, the edges of the fabric, and finally into an inner collar. The method solves the width-control problem that previously was the biggest drawback to setting tricot fabrics by steam or hot water while they were wound on beams.

Foreign Machines Finish Powernet

The new primary dyeing and finishing machines installed at Best Dyeing Co., Elizabeth, N. J., are of foreign origin. The dye jigs are from Switzerland; the versatile tenter was made in Germany.

Powernet fabrics must be handled with extra care to avoid undue tension; so all equipment is designed with this fact in mind. The jigs are of the tensionless, automatic-reversing type. The tenter has a combination clip and pin chain. The finishing pad is of domestic make but European design.

Pressure is applied across the entire length of the top roll in this wide pad, which eliminates bowing of the top roll and provides even pressure across the goods.

Instrumentation on the tenter is extensive, and most functions of the machine are controllable at the entering end. If a misclip occurs, the machine shuts down; and temperature and speed are also automatically controlled.

Best uses resins to help stabilize the elastic fabrics, and resins are cured in a curing area built into the tenter housing. Electric elements provide the extra heat needed for this process. Any needed temperature is automatically maintained by suitable controls.

Sprays Apply Finish

A completely new concept in starching has had promising tryouts at Lanett Bleachery. Instead of the conventional padding process, which saturates the fabric with water and finishing materials, the new method sprays more-concentrated finishes on the dry goods.

A series of spray heads is served by a powerful pump from a central supply of finishing solution.

Many light finishes can be applied in this way. The chief advantage is that the goods carry only 35 to 40% moisture into the dryer as compared to 65 to 70% when the pad process is used to apply finish. The production potential of this type of finish application is about twice that of conventional methods. Lanett also discarded the old-fashioned method of starching as a separate operation and now has starching pads and can-tenter drying ranges hooked up as a single unit.

Geigy Dyestuffs Division of Geigy Chemical Corporation
Saw Mill River Road, Ardsley, New York

BLEACHING, DYEING, FINISHING

Renfrew Increases Capacity

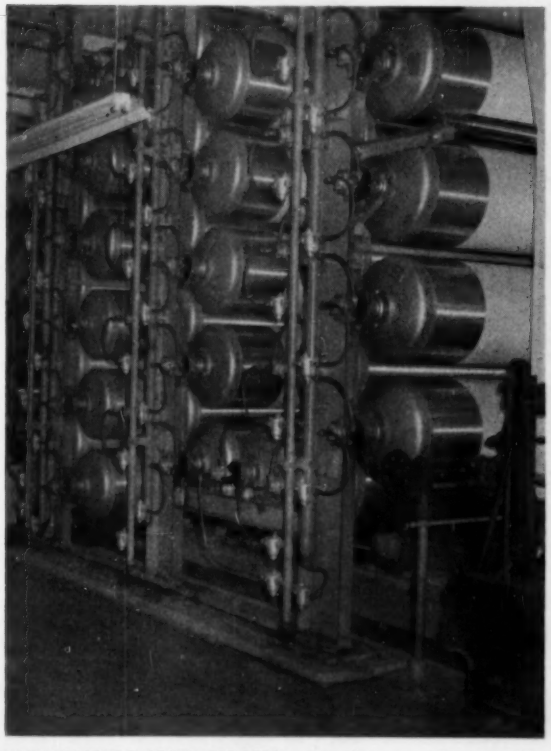
Renfrew Bleachery, a division of Abney Mills at Travelers Rest, S. C., has two firsts to its credit. The plant installed the first continuous two-stage peroxide-bleaching range in this country many years ago, and later it put in the first pad-steam installation for vat dyeing. Renfrew is one of the few bleacheries that has always used peroxide exclusively as a bleaching agent for both batch and continuous processes on white and dyed woven fabrics.

In the past year, Renfrew has made important changes in productive equipment and added to its plant area. Increases in the demand for wash-and-wear finishes made it necessary to install another mercerizing range and a third finishing range complete with curing unit.

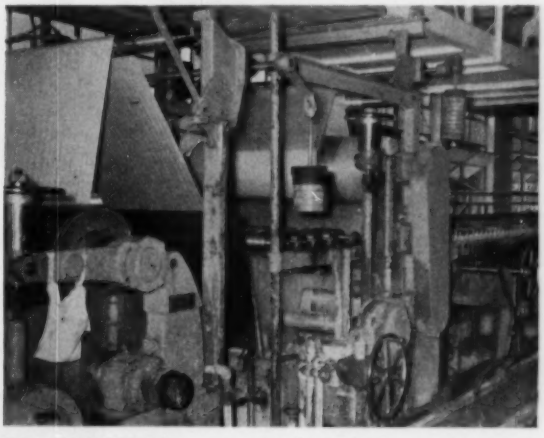
New Mercerizer Is Thoroughly Instrumented

The mercerizer is set up to handle wet bleached goods and is thoroughly instrumented to provide control of caustic strength and wash-water temperature. Antifriction bearings and stainless steel are used at all points where their performance charactertistics are needed.

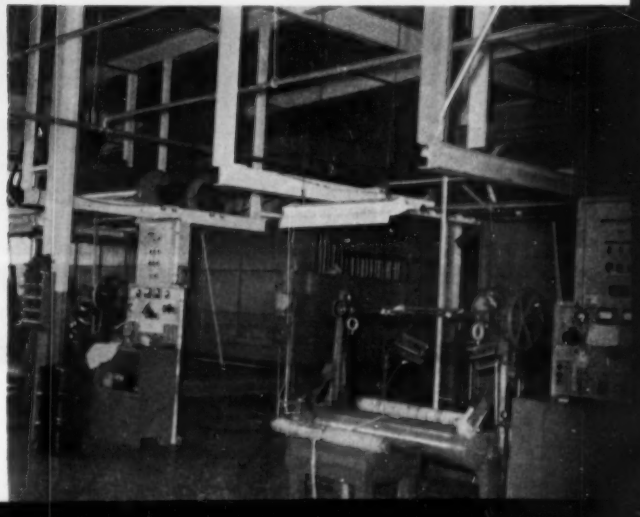
The new finishing range is installed beside two similar ranges, all set up to handle crease-resistant finishes.



HIGH-PRESSURE STAINLESS-STEEL cans dry mercerizer production and deliver to a continuous batcher that terminates a range over 200 ft. long.



NEW MERCERIZER has water mangle (left) to even out moisture of goods that are mercerized wet. Caustic is recovered from wash waters.



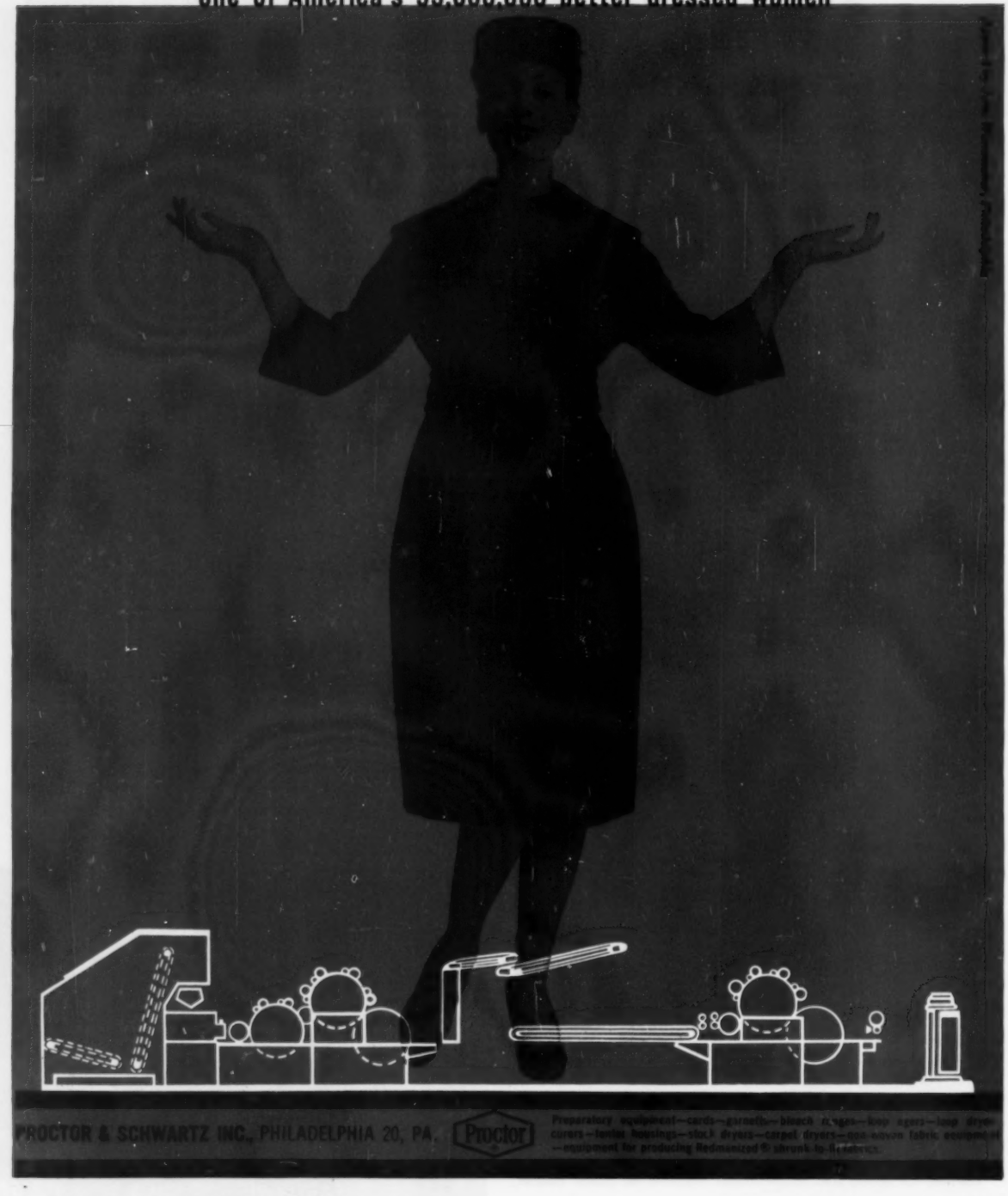
MODERN FINISHING RANGES have curing units and centralized controls for speed and temperatures mounted on panel boards.

Milady won't recognize the name PROCTOR, yet she loves that extra, long-lasting beauty and quality which is so distinctive of fabrics processed with PROCTOR Textile Machinery.

Our males too appreciate the superior qualities of PROCTOR-processed textiles, whether for their own personal attire, or for the many knit, woven, tufted and non-woven industrially applied products.

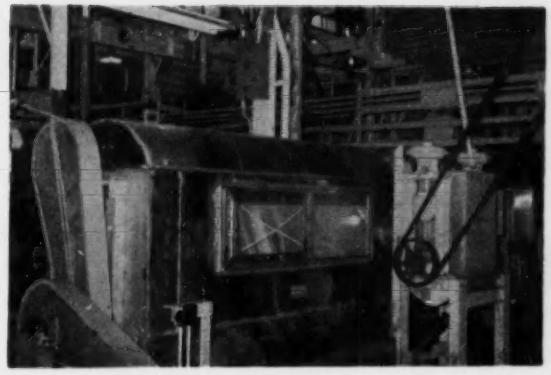
PROCTOR Textile Machinery adds quality and saleability. America is truly better dressed—and better served—because of PROCTOR.

one of America's 55,000,000 better dressed women



PROCTOR & SCHWARTZ INC., PHILADELPHIA 20, PA. Proctor

Preparatory equipment—cards—garnetts—bleach ranges—loop agers—loop dry-cureers—tenter housings—stock dryers—carpet dryers—non-woven fabric equipment—equipment for producing Redmanized® shrunk-to-finish cloth.



TYPICAL OF EXCELLENT MACHINERY in use at Renfrew is this stainless-steel washer in the continuous peroxide-bleaching range. The present range is a complete replacement of the first of its type installed in the U. S.

The curing units that are synchronized with the tenters are of the roller type and are heated by vaporized-kerosene burners. Curing temperatures are controlled automatically to the degree most suitable for the particular finish being applied.

Renfrew's first pad-steam dyeing range has recently been supplemented with two newer ranges of the same type. All are hooked up so that vats, naphthols, sulfur, or pigment colors can be applied in one continuous process.

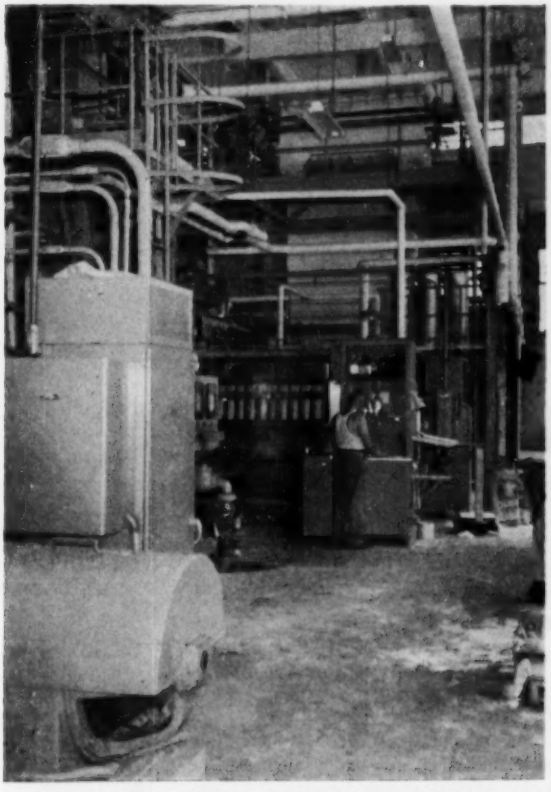
More Space, Boiler Capacity Added

This year over 60,000 sq. ft. of space has been added to the plant in a new wing, and a new loading dock has been built in a central location to speed shipment of finished goods.

The new addition contains part of the finishing machinery; but more important, it will provide space for Renfrew's next step—moving put-up, open-stock, and packing operations into areas that are in direct line with finishing.

To take care of added demands for steam, a modern 60,000-lb. capacity coal-fired boiler has been installed in an area once occupied by a turboelectric generator.

That modernization is a continuing process at Renfrew is evident not only in these most recent changes but also in the fact that all the major equipment is of recent design and is maintained in top operating condition.



BILTMORE'S NEW SINGLE-STAGE BLEACHING RANGE supplements the production of 20 kiers at better than 200 yds. per min.

Sayles Reduces Waste Space

An extensive job of consolidation of space and realignment of equipment has been completed this year by Sayles Finishing Plants, Inc., at its Saylesville, R. I., plant. Its Biltmore, N. C., plant has also relocated and expanded some operations and has added new equipment.

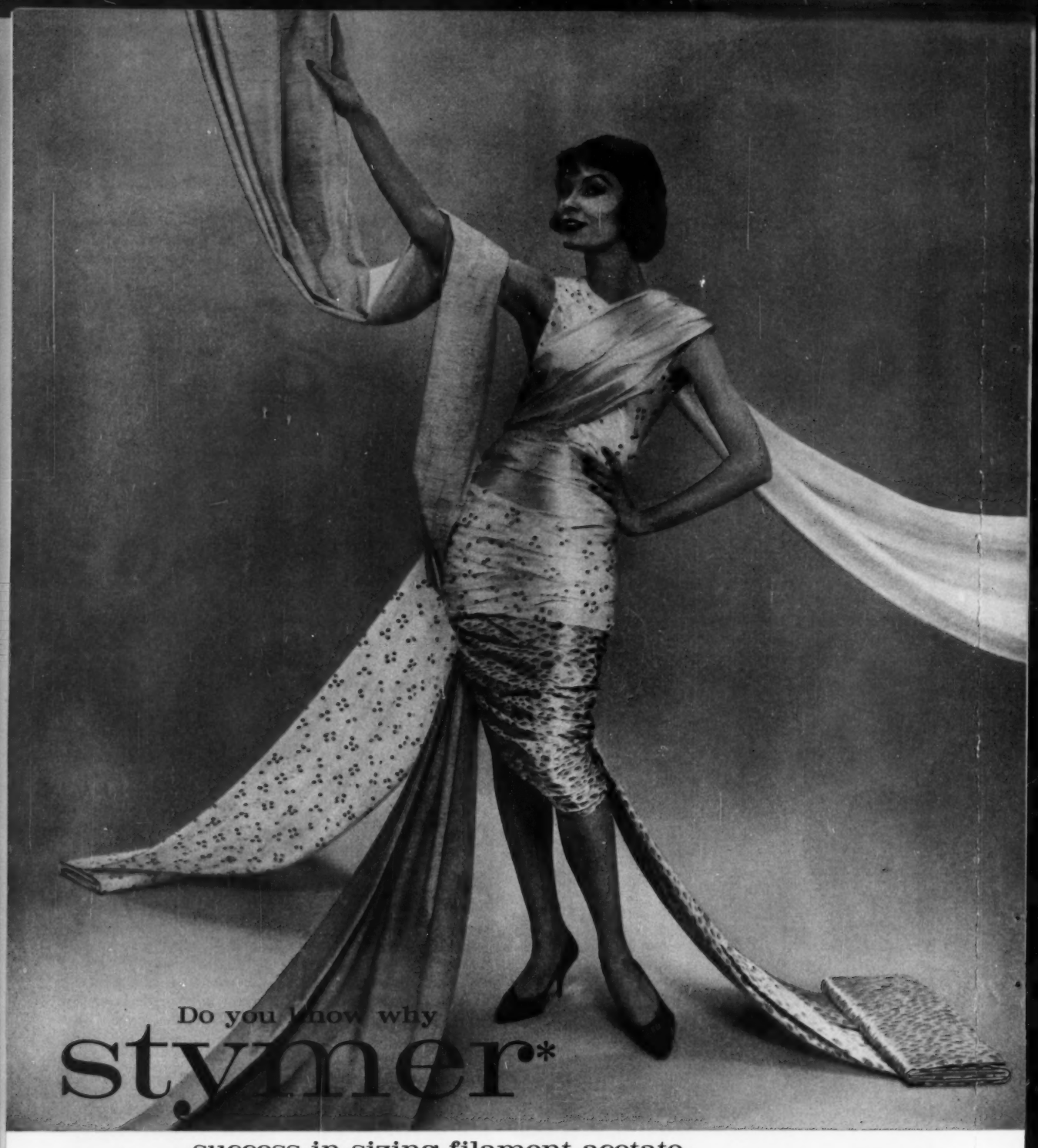
Over a 100-yr. period the Saylesville plant had grown to include over 1-million sq. ft. of space. The growth period coincided with the era in which most textiles, gray or finished, were moved by the railroads. So the warehouse was located in an area of grades favorable to the railroad. Mechanical stores and the machine shop found themselves out in the yard, away from the dyehouse and bleaching operations.

When Sayles built another plant at Biltmore, the picture for Saylesville started to change; and as the new plant took over more and more of the large-yardage staple finishing tasks, the Rhode Island plant concentrated on specialties that paid well but required less plant for their production.

Plant management went to work to consolidate operating and service departments as nearly under one roof as possible. Outlying buildings spread over the 26-acre plant site were sold or leased, and gray-goods warehousing was transferred to an area easily served by trucks and very close to the point of use.

By rearrangement of machinery in the finishing department and lining up put-up and finished-goods storage with finishing, Sayles achieved something like straight-line production.

Now nearly 2-million yds. of goods per week move through the plant in about two-thirds the space formerly occupied.



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Other Monsanto textile chemicals: Resloom* E-63 chlorine resistant resin; Resloom E-50 cyclic urea resin; Resloom HP and M-75 melamine resins; AC catalysts; Lytron* Polystyrene latices

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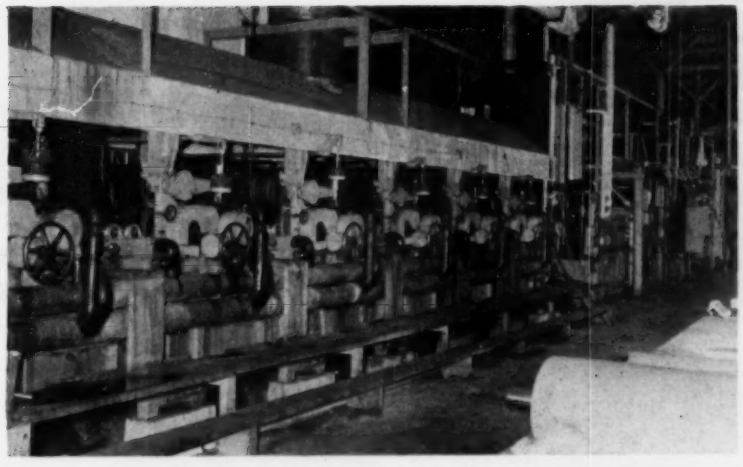


OVER 200 FT. ARE REQUIRED to mount Biltmore's all-purpose continuous dyeing range shown here in part.

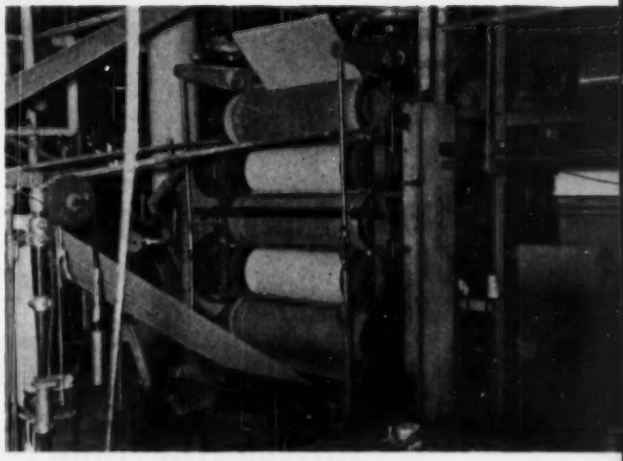
Materials-handling costs have been cut sharply, and supplies are now located close to the point of use.

The streamlining had added advantages because as disused buildings were sold, tax and maintenance costs were reduced. Leased property brings in some added income.

Better Planning Aids Biltmore

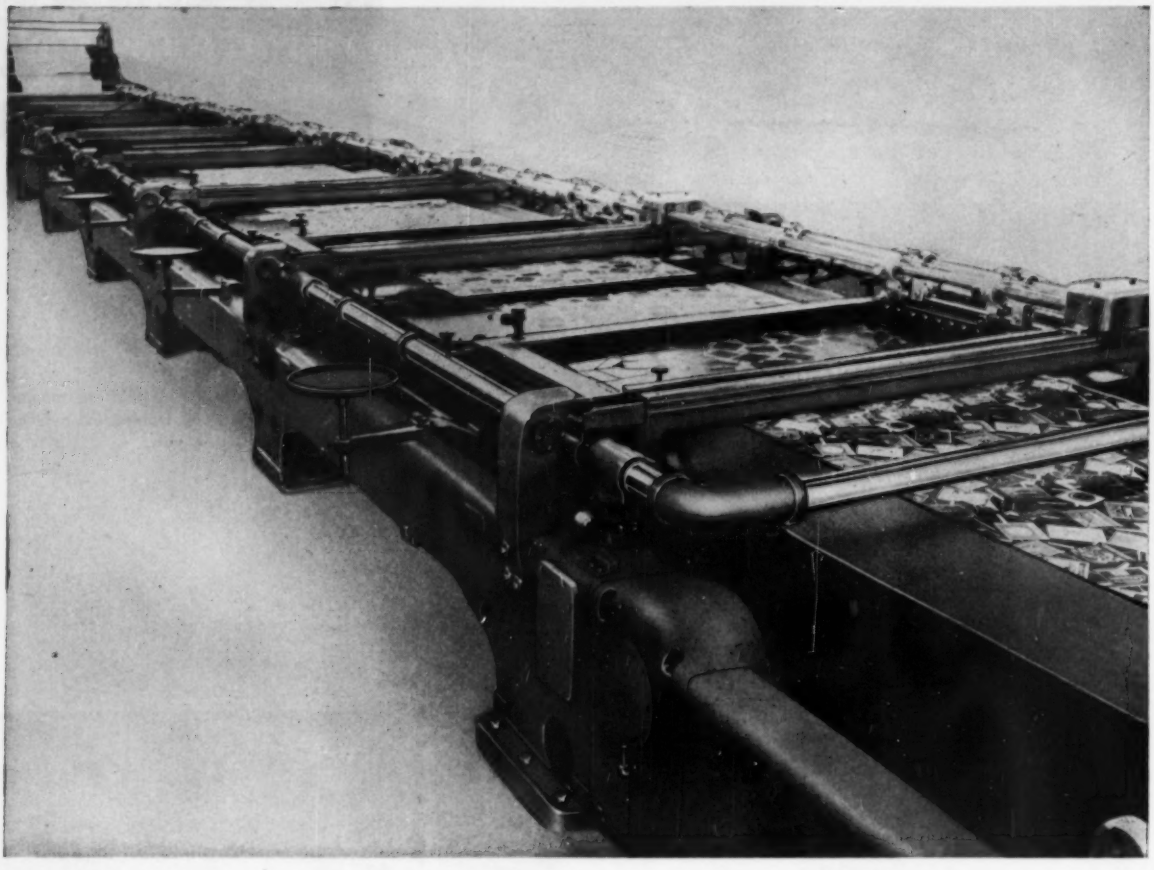
Sayles' Biltmore plant is another good example of how plant layout can give a minimum of sidetracking and no backtracking. Set up to handle large yardages of staple fabrics, this plant emphasizes straight-line production and keeps cloth in motion from machine to machine as much as possible. Cloth is rolled or plaited into trucks in mid-process only when it is impractical to do otherwise.

Drying equipment is hooked into finishing pads, tenters, compressive shrinkers, and even calenders. Curing units are integral with some frames that are used for resin finishing, and a separate curing and soaping range is laid out so that fabric flow minimizes trucking from the treating range and to the finishing tenter.



GOODS COMING OFF TENTER are conditioned, calendered, and batched continuously in this one-man operation.

NEW BUILDING houses corduroy-finishing department in a light, airy unit laid out handy to main processing areas.



Screen print up to 12 yds. of fabric per minute with an

ICHINOSE-TYPE MULTI-COLOR AUTOMATIC SCREEN PRINTING MACHINE

The Ichinose screen printing machine, with more than 60 patented improvements, screen prints all kinds of fabric perfectly in up to 14 colors at nearly double the speed of other machines on the market. Finished prints are of highest quality: clean, sharp, accurate and far superior to hand or roller prints.

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New Bedford, Mass.

A recent improvement is the relocation of consumable stores to a new building that has been placed so that future expansion can be built around it to maintain its present accessibility.

Management is proud of its new single-stage bleaching range that went into production in July. Layout of this range parallels existing kier and chemic setups, and its production of well over 200 yds. per min. feeds into the white bins that are the starting point of the drying ranges.

Dyeing Range Is Versatile

One of Biltmore's continuous dyeing ranges is set up to do aniline black, vats, sulfurs, naphthols, or pigment colors. Starting with a pad for aniline-black saturation, the range follows up with dry cans, an ager, a soaper, and another stack of cans.

Lined up after these units is a pigment pad, drying flue, chemical pad, steamer, oxidizing and soaping range, and a final stack of cans.

Any desired combination of units can be used as needed for the various classes of dyestuffs and processes required.

Biltmore now handles all of Sayles' corduroy finishing in a new addition laid out in a U-form that has its own receiving and shipping area. Because this fabric requires a number of operations that are not necessary on plain-woven goods, the plant is more or less self-contained; but it is located close to dyeing and drying areas that are also used for the bulk of bleachery production.

This emphasis on straight-line continuous flow gives Biltmore a plant that is uncluttered with trucks and roll racks and reduces handling costs to a minimum. By placing equipment wisely, the little trucking that is necessary can often be handled by the machine operators as a regular part of the job.

The put-up and packing departments operate in similar fashion. Finished goods from the tenters and calenders are delivered from these processes close to the elevator to the second-floor put-up room. When they leave the elevator, hookers, doublers, and rolling machines process the goods into the desired forms; and they are packed in cases close to a passage that connects with the finished-goods shipping area.

Biltmore's warehousing and shipping facilities have come in for relocation and expansion as goods movements have shifted from railroads to trucks.

But the master plan for the plant in years to come stresses the principles so well applied up to this point: continuous operation, straightline production, and a minimum of handling.

Fulton Speeds Up Finishing

Fulton Cotton Mills, Atlanta, Ga., is modernizing its finishing plant to cope with the company's present operations.

The two-stage continuous bleaching range has been rebuilt, and modern stainless-steel washers have replaced the old-style log washers originally installed. Level controls have been added to the caustic feed on the first stage and peroxide feed on the second stage. These controls have saved money on chemical costs and helped in producing more-uniform work. Cost savings come from automatic shutoff of chemical feeds when for one reason or another it is necessary to stop the range during a run.

Automatic guiders for print-machine blankets have eliminated the need for almost constant attention on the part of an operator to keep the blankets centered with the old manual control.

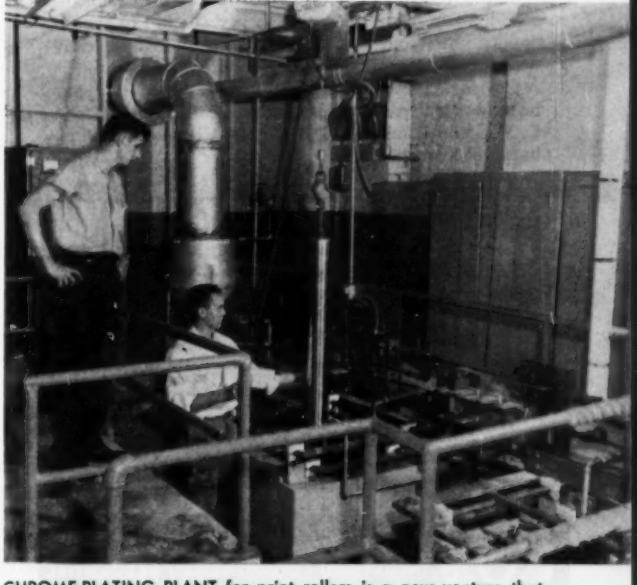
The primary drying range has been equipped with an automatic skew-and-bow eliminator that is particularly useful for goods going directly to the printing machines.

A manually-operated weft straightener has been installed on a finishing range that also boasts a new 72-in. three-roll pad of the latest design.

A new stack of 24 stainless-steel cans speeds up production on another range that produces heavily starched buckram finishes.

Print rollers are chrome plated in Fulton's own plant now. The savings in freight costs incurred in shipping rolls to a plating plant have been big enough to pay a good return on the investment and absorb labor and operating costs.

Other gains are less downtime on printing machines because plated rolls last longer and there are no shipping delays.



CHROME-PLATING PLANT for print rollers is a new venture that is paying off in reduced costs.

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This new 8-page catalog describes the full line of Chromalox Far-Infrared heaters. Contains sizes, ratings and uses for each one, with a dozen photographs of typical applications.

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Standard heaters for most jobs are ready for immediate shipment from the world's largest stock. For special applications, your Chromalox Representative is ready with factory design-engineering service.

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The Laurel Leaf

BUSINESS MAGAZINE EDITION

LAUREL MERCERIZING PENETRANTS

These three Laurel **quality** penetrating agents, suitable for use in varying strengths of Caustic Soda, are giving excellent results in yarn and piece goods mercerizing as well as Plisse work:

LAUREL MERCERIZING PENETRANT 5X

A cresylic type product for use on both piece goods and yarn in standard mercerizing ranges. It is readily soluble in caustic soda and will form stable solutions in concentrations up to and including 56° Tw. It shows no tendency to thicken or gel on standing and will not lose its effectiveness in use. Assures a quick and uniform wetting out of greige yarn and fabrics, with subsequent mercerizing over the full length of the warp or piece.

LAUREL MERCERIZING PENETRANT 20X

A cresylic type product for use in very high strength caustic soda solutions on the order of 80° Tw. Used in Plisse or similar type work. It is stable in the presence of starch and other thickeners customarily used in the preparation of the Plisse pastes. Also suitable for any other applications which call for caustic soda concentrations in the range of 80° Tw.

LAUREL MERCERIZING PENETRANT NC

A non-cresylic type product recommended for use as a wetting and penetrating agent in caustic soda solutions in strengths up to 50° Tw. It will form clear, stable solutions which will maintain their wetting power during usage. Will give satisfactory penetrating action on both yarns and piece goods. This Laurel product is used in the same manner and for the same applications as Laurel Mercerizing Penetrant 5X, where the presence of cresylic acid in the formulation would be desirable.

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PROCESS CONTROL

Sales of instruments to control textile processing have increased considerably in the past year. One major company in this field reports sales up 70% over last year.

Two factors are responsible for the gain in this type of equipment: there is an instrument available to control practically every phase of every process, and continuous operation of multiunit ranges makes instruments a necessity if economical operation and uniform work are to be expected.

As a result, practically no major textile-finishing process is set up today without some sort of automatic control supplied by instruments.

Integration Is Trend

Textile plants are beginning to consider control instruments as an integral part of processing machines rather than as accessories to be added at a later date when a need for them is demonstrated.

In this respect, dyers and finishers are far behind primary producers of yarns, dyes, and chemicals who have considered process control as important as the process itself for many years.

The swing toward more-complete instrumentation in bleaching, dyeing, and finishing coincides with the increasing complexity of these processes as well as the tendency toward continuous operation wherever practical. Product improvement and automation as a means of reducing costs have been powerful factors in influencing plants to turn to instrumentation to achieve these ends.

More Controls Are Used

Starting with relatively simple heat-controlling instruments that maintained wanted temperatures in kiers, dyebaths, or dryers, instrument makers have gradually developed controls that maintain constant pH, constant Redox potential, chemical feed, dye concentration, liquid levels, fabric-moisture content, and wash-water flow. Even color matching is successfully carried out in specialized cases.

In continuous vat-dyeing processes, it is now possible to meter the necessary chemicals in direct proportion to dye consumption at the pigment pad. Ideally, a continuous range also has automatic controls that maintain uniformity of flow, temperature, and chemical content in oxidizing, soaping, and rinsing boxes. All of these are coordinated with range motion so that if the range is shut down, water and chemical feeds are stopped automatically.

Batch-process control has been improved so that in beck dyeing, for instance, the entire dyeing cycle from wetting out to final rinse is programed and controlled by a preset instrument.

Controls for pressure-dyeing equipment have recently been advanced to the point where every detail of chemical and dye feed, liquor flow and reversal, temperature rise and hold, and final rinse are controlled automatically.

Continuous scouring and dyeing processes are in course of development that are automatically controlled in every detail except color matching.

Instruments Help Finishing

The relatively complex resin-finishing methods in wide use today must be standardized in several respects if fiber damage and over-all poor results are to be avoided. Particularly vital are curing time and actual fabric temperature. Two of the most recent methods of checking the temperature of the goods themselves are paper thermometers and radiation pyrometers.

Paper thermometers, pinned to goods, will turn color if the fabric reaches the temperature range at which the paper is sensitive. The paper is supplied in a range of sensitivities; each covers a 10-degree band.

Radiation pyrometers depend on heat reflected from the fabric to indicate and/or control curing conditions. Two types of radiation pyrometers are in commercial production and have been applied to curing-range control.

Good Maintenance Is Necessary

As instruments become more numerous and complex, the need for adequate maintenance grows. The qualified instrument engineer is common in fully instrumented industries but as yet is scarce in the textile industry.

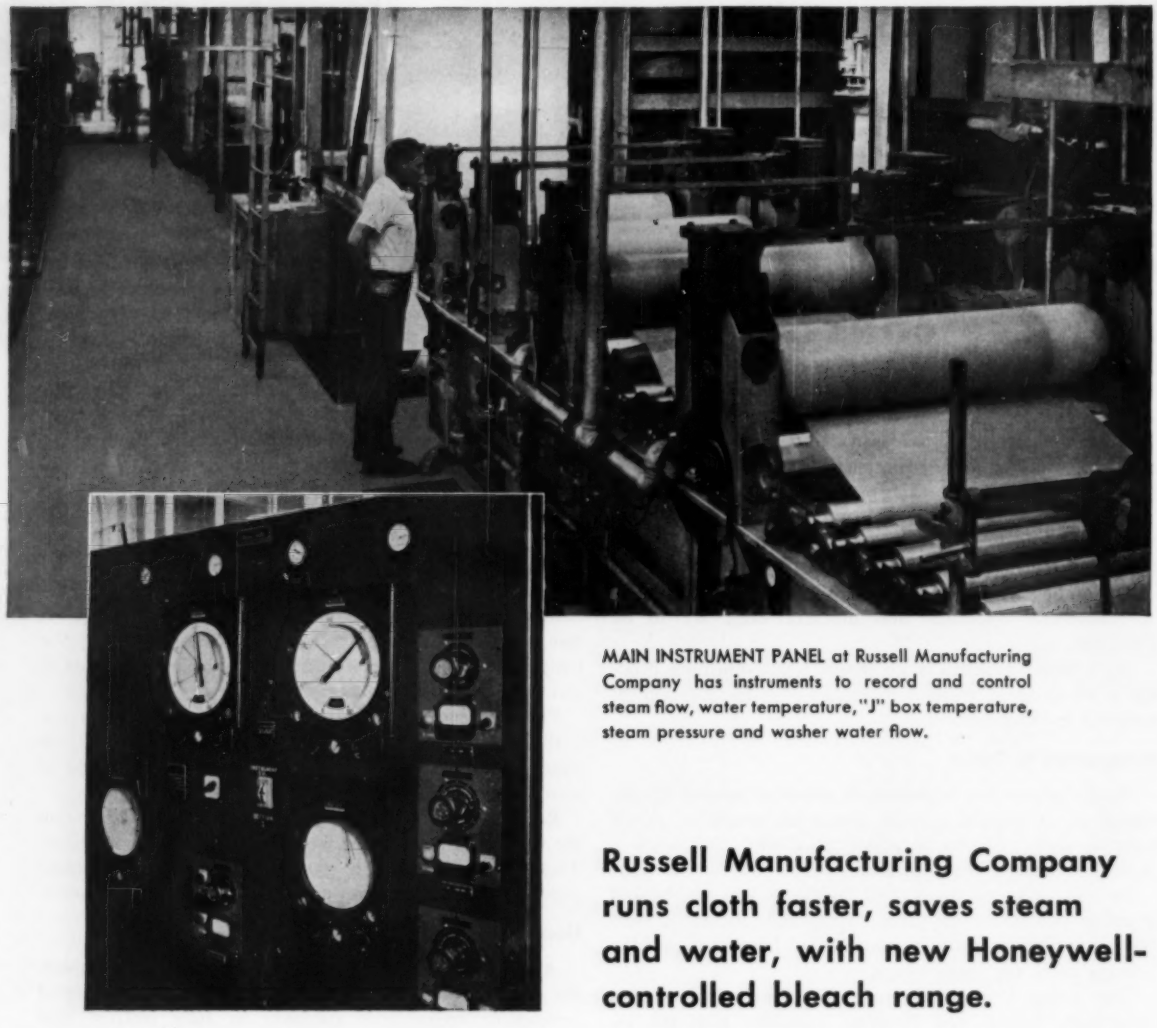
Without properly trained personnel to service them, instruments can fail to do their job and processes go back to manual control. However, as the number of instruments in a plant increases, the cost of proper maintenance per instrument decreases; and plants are becoming more willing to bear the cost of a competent instrument engineer.

New Control Method Developed

One of the newer process-control instruments is actuated by signals transmitted from the recording pen as it travels between two penciled lines drawn on ordinary graph paper.

The penciled lines are connected electrically to a transformer system that provides the voltage source for an electrostatic field. As variations in heat, flow, pH, level, or other process functions cause the pen to move laterally between the penciled lines, electrical imbalances are set up that actuate corrective procedures.

The pen rides on a superimposed sheet of paper that can be used as a reference record. The underlying master chart is always available for reuse and replaces the metal cams that are used in other systems.



MAIN INSTRUMENT PANEL at Russell Manufacturing Company has instruments to record and control steam flow, water temperature, "J" box temperature, steam pressure and washer water flow.

Russell Manufacturing Company runs cloth faster, saves steam and water, with new Honeywell-controlled bleach range.

Russell Manufacturing Company of Alexander City, Alabama has combined rope and open width bleaching in a fully controlled range. Honeywell designed the automatic control system which not only permits cloth to run at speeds up to 200 yards per minute, but also has greatly reduced steam and hot water consumption.

One master recording-controller positions a three-way mixing valve to maintain water temperature at the same pre-set level in all three washers. No water is wasted. It's metered in exact amounts for proper processing and shuts off automatically after five minutes of range downtime. This saves an estimated 1,250 gallons of hot water alone every time the process is shut down.

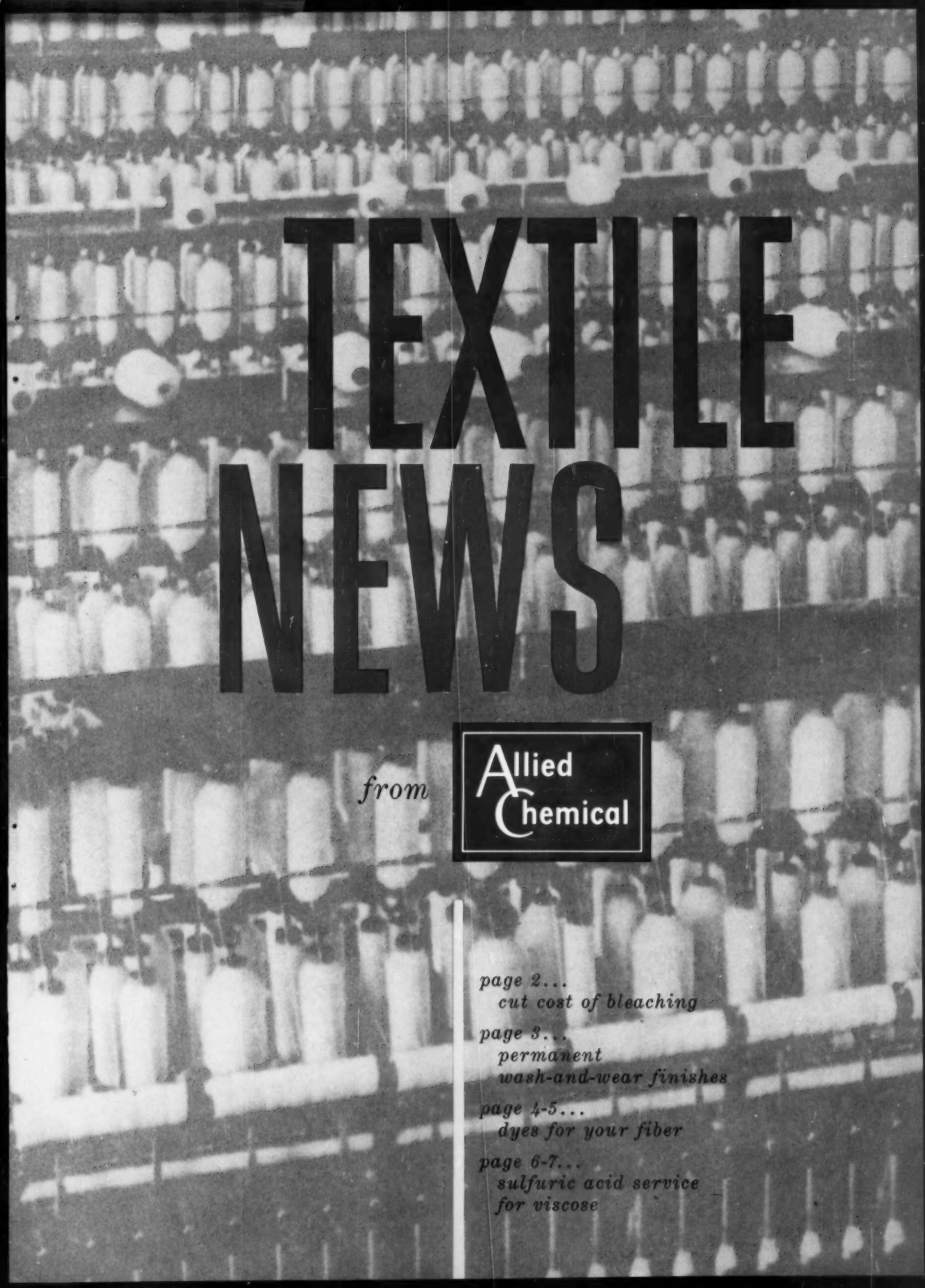
Through the combination of open width in "J" boxes, desizer, and padders and rope form in the washers, Russell saved $33,000 in equipment and installation costs and 35 feet of floor space.

In your own mill, automatic control can upgrade product quality and bring new economy and efficiency to any process. Your nearby Honeywell field engineer can tell you how. Call him today . . . he's as near as your phone.

MINNEAPOLIS-HONEYWELL, Wayne and Windrim Avenues, Philadelphia 44, Pa.

Honeywell

H HONEYWELL First in Control



TEXTILE NEWS

from Allied Chemical

page 2...
cut cost of bleaching

page 3...
permanent wash-and-wear finishes

page 4-5...
dyes for your fiber

page 6-7...
sulfuric acid service for viscose

• *new process cuts cost of bleaching chemicals up to 50%*

Now you can save up to 50% of the cost of cotton bleaching chemicals. Solvay's Activated Hydrogen Peroxide Bleaching Process not only helps you realize substantial savings of chemicals, but actually improves the quality of the cloth at the same time. You obtain increased purity and higher whiteness, as well as lower color reversion and ash content. Send for brochure giving complete process details. ■ **SOLVAY PROCESS DIVISION**

• *now...*

permanent

wash-and-wear

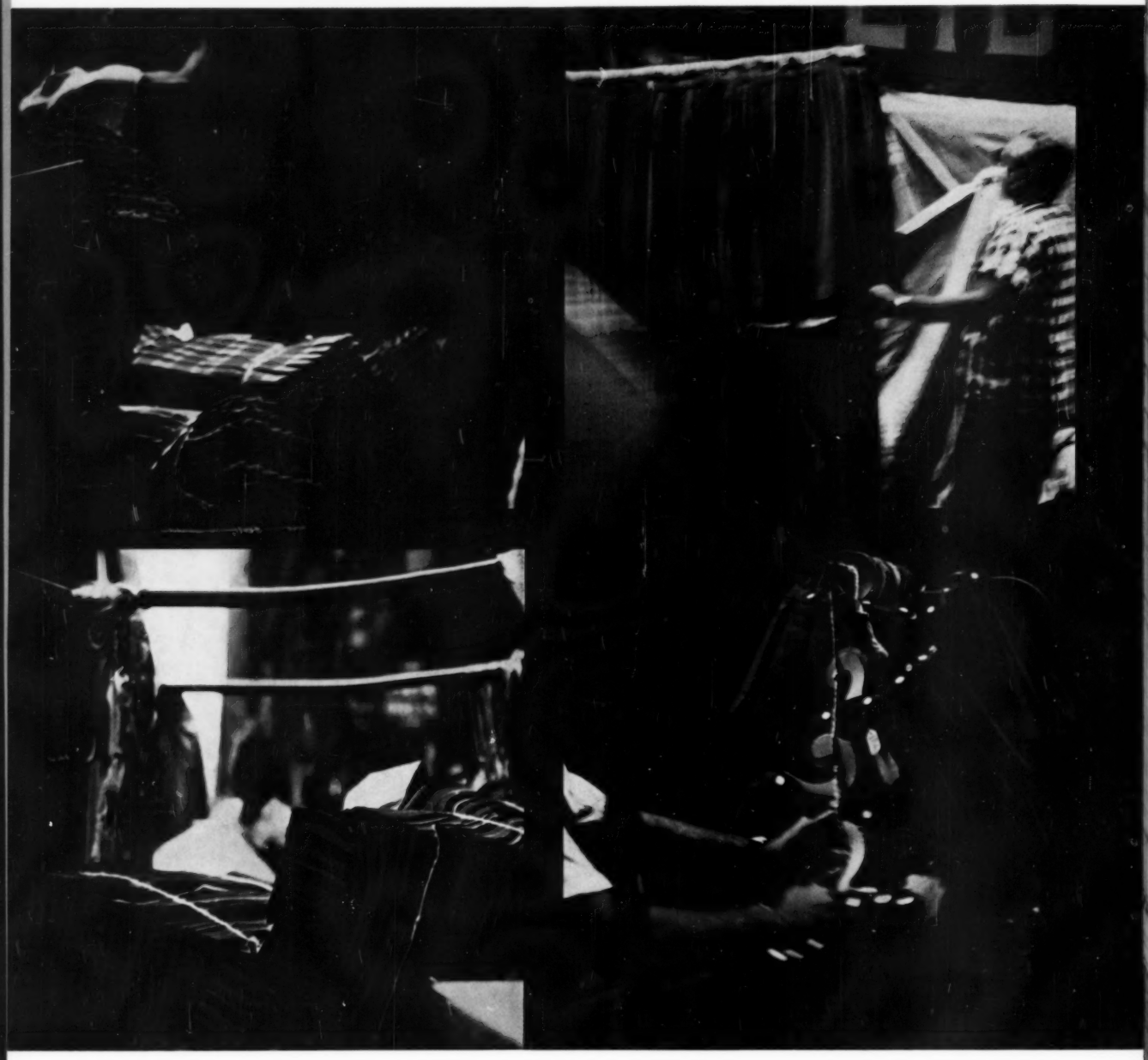
finishes

with above-normal

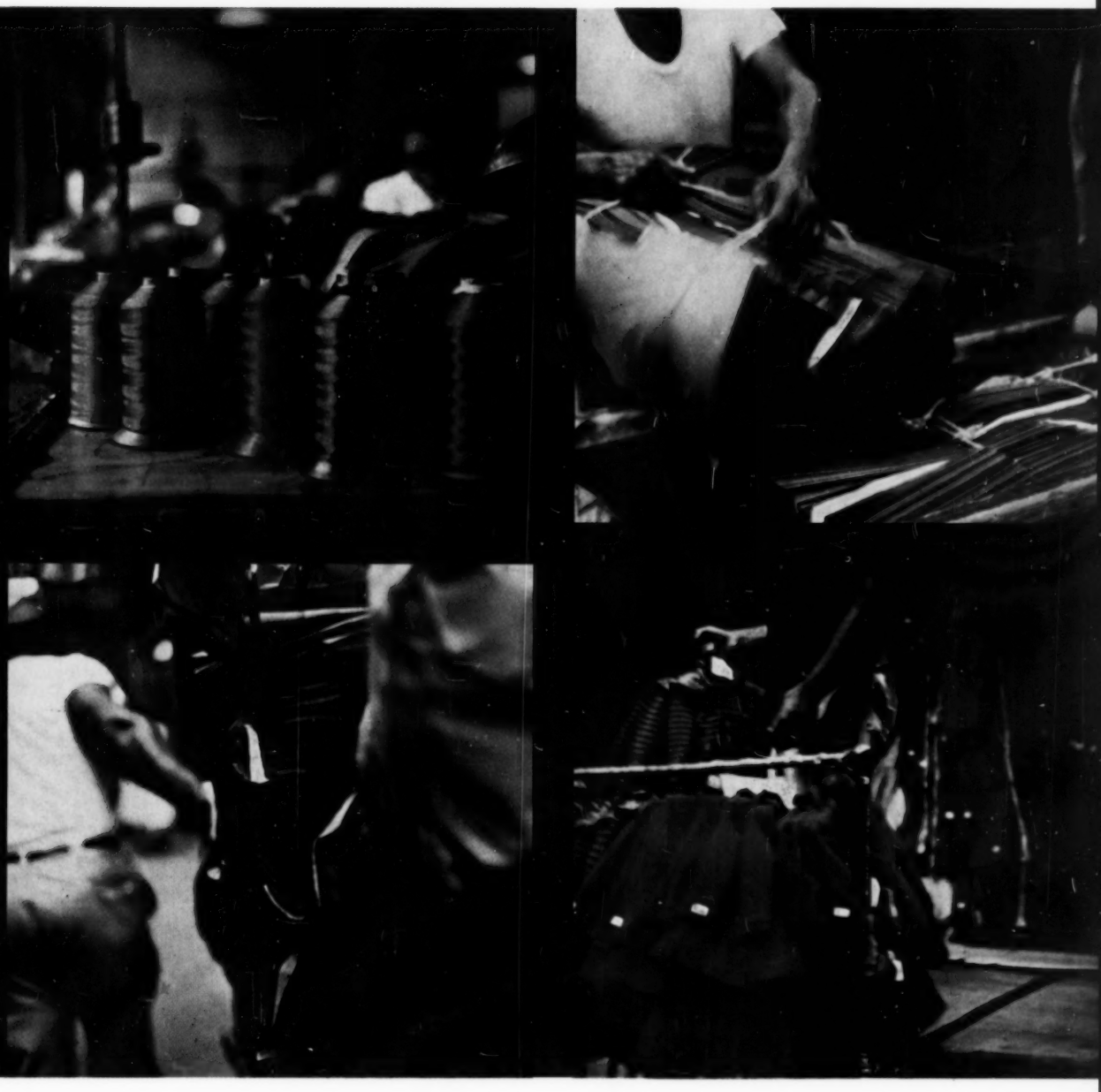
tear strength

What can be done about loss of tear strength caused by some wash-and-wear finishing resins? Incorporate A-C Polyethylene! This new emulsifiable polyethylene from Semet-Solvay Petrochemical Division overcomes the loss, increases tear strength to above-normal. Other benefits: better crease resistance, whiter whites, scorch resistance and superb "hand." Our brochure, "Emulsifiable A-C Polyethylene for Textiles," gives the whole story. ■ **SEMET-SOLVAY PETROCHEMICAL DIVISION**

• *almost 1,000 dyes for all major textile fibers*



NATIONAL AND CARBANTHRENE are Allied Chemical trademarks



Pick almost any fiber — you can color it with a NATIONAL dye. National Aniline makes nearly 1,000 different types of dyes for every fiber generally used in textiles. Vat dyes, for example. There's no specking with CARBANTHRENE vat dyes, because they're redispersible if they dry out. Their fine particle size also means uniform package or beam dyeing, from inside to outside. After 80 years of dye making, National Aniline still offers the broadest line of quality dyes.

■ **NATIONAL ANILINE DIVISION**

• *sulfuric acid for viscose rayon...*
wherever you need it...whenever you need it

ANACORTES WORKS
Anacortes, Washington

BATON ROUGE WORKS
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BRITISH COLUMBIA WORKS*
Barnet, British Columbia

BUFFALO WORKS
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DELAWARE WORKS
North Claymont, Delaware

DENVER WORKS
Denver, Colorado

DETROIT WORKS
River Rouge, Michigan

EAST ST. LOUIS WORKS
East St. Louis, Illinois

ELIZABETH WORKS
Elizabeth, New Jersey

EL SEGUNDO WORKS
El Segundo (Los Angeles), Calif.

FRONT ROYAL WORKS
Front Royal, Virginia

NATIONAL WORKS
Cleveland, Ohio

NEWELL WORKS
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NITRO WORKS
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Richmond (San Francisco), Calif.

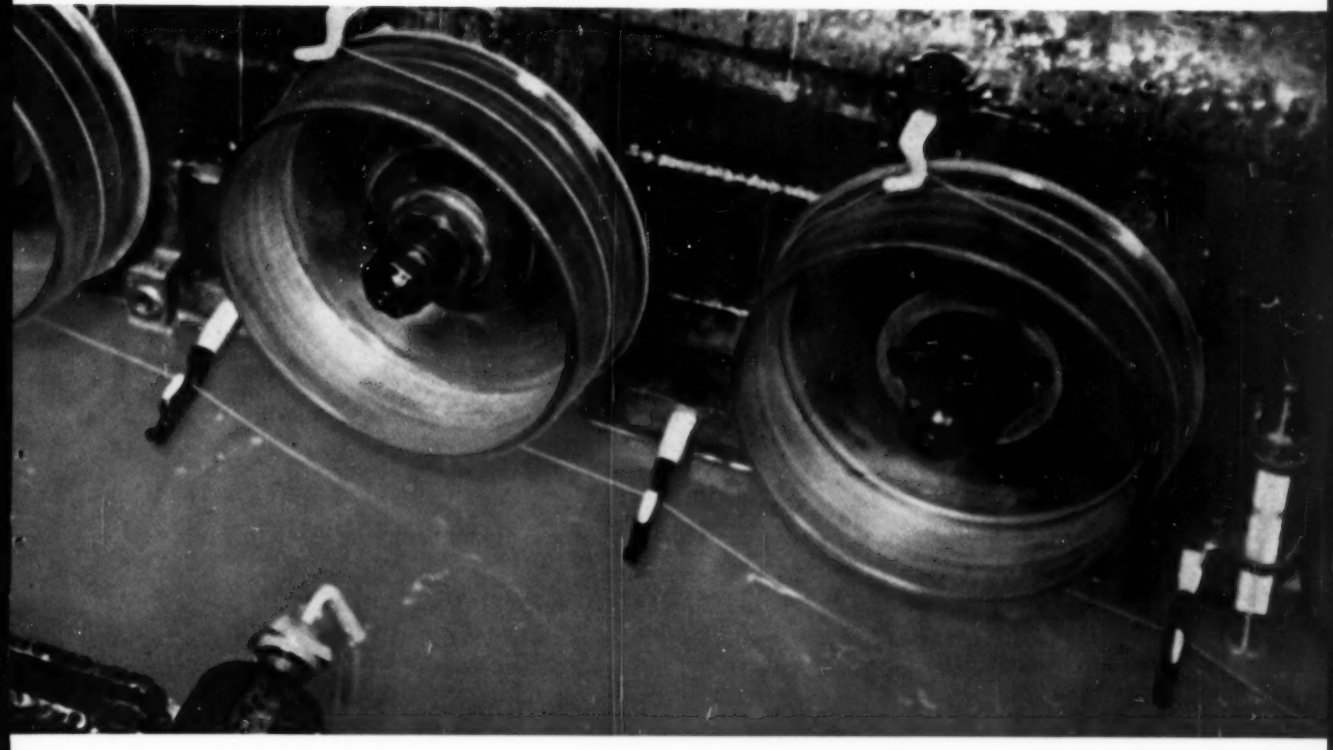
SULPHIDE WORKS*
Sulphide, Ontario

VALLEYFIELD WORKS*
Valleyfield, Quebec

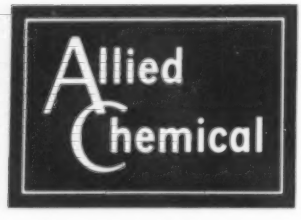
*In Canada: ALLIED CHEMICAL CANADA, LTD.

No one knows better than the viscose rayon manufacturer how vital a dependable source of sulfuric acid is in maintaining uninterrupted production. With this need in mind, General Chemical has established a nationwide network of 21 plants as well as warehouses. Strategically located and geared to meet regional requirements, they can service your needs quickly and dependably. Write for your copy of General's full-color Sulfuric Acid brochure.

■ **GENERAL CHEMICAL DIVISION**



• *basic to America's progress*



For more information, write
Allied Chemical Corporation, Dept. 109-E
61 Broadway, New York 6, New York.

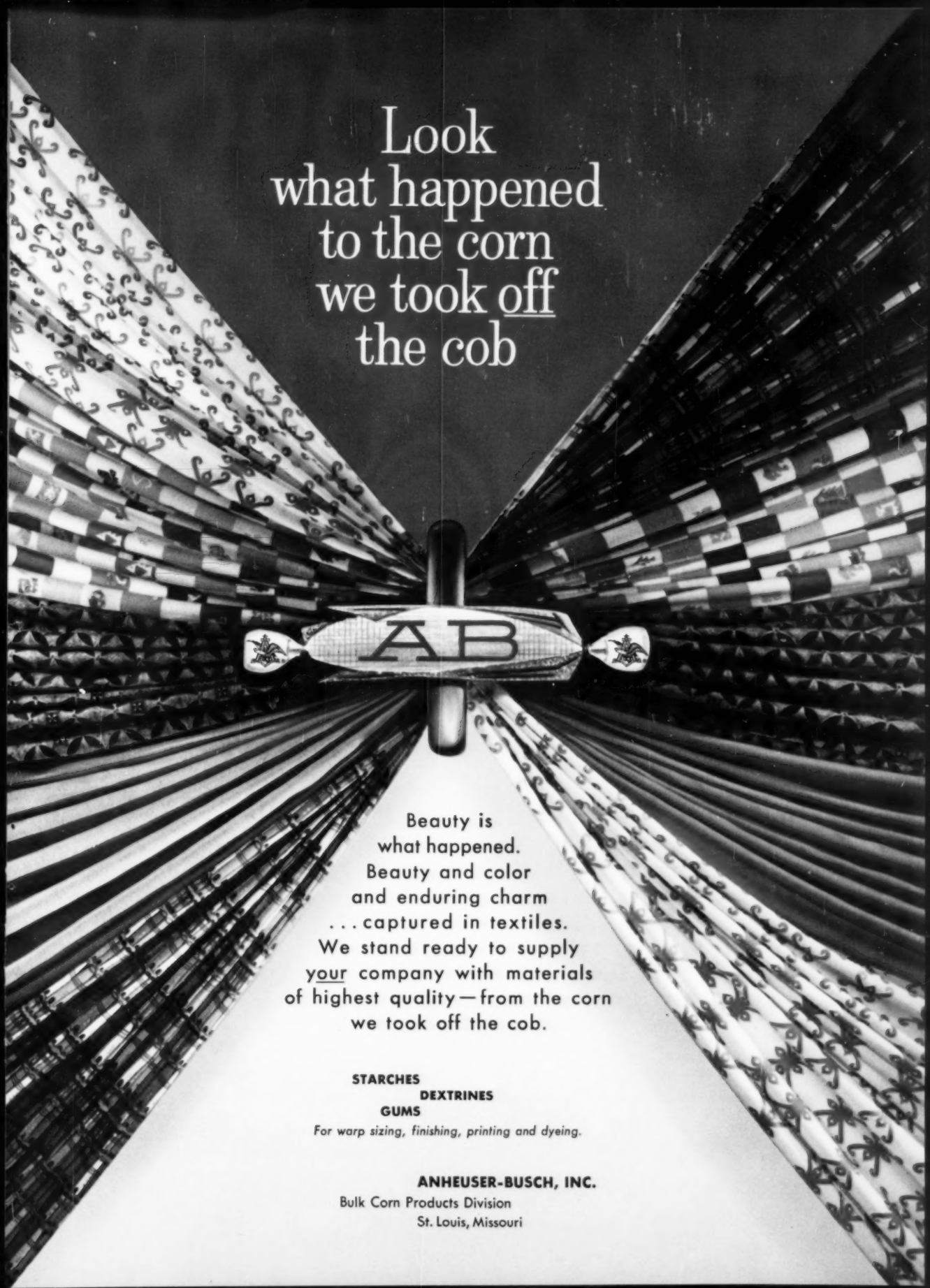
In Canada:
Allied Chemical Canada, Ltd.,
1450 City Councillors Street, Montreal

• *principal products for the textile industry*

BARRETT DIVISION • BARRETT building materials • **GENERAL CHEMICAL DIVISION** • Acetic acid • Muriatic acid • Sodium phosphates • Sodium silicate • Sodium sulfate • Sulfuric acid • BAKER & ADAMSON fine chemicals — Ammonium acetate — Boron trifluoride complexes — Cuprous chloride — Sodium bisulfite (anhydrous) — Zinc fluoborate — Zinc nitrate **NATIONAL ANILINE DIVISION** • CAPROLAN polyamide fibers Filament yarns • Heavy yarns • Monofilament • Staple • Fumaric acid • Maleic anhydride • NACAN kier boiling assistant NACCONOL detergents • NATIONAL dyes • ALIZAROL (mordant) CARBANSOL (vat pigments) • CARBANTHRENE (anthraquinone vat) CHROMOLAN (premetalized acid) • DIAZINE (developed) • ERIE (direct) LANAMID (premetalized neutral) • NABOR (basic) • NACCOGENE (stabilized azoic) • NACELAN (disperse) • NACROSOL (azo pigment) NIAGARA (direct) • SOLANTINE (fast-to-light direct) SOLASTRAL (phthalocyanine pigments) • SOLVAT (leuco vat ester) SULFINDONE (sulfur) • SUPERCHROME (mordant acid) • Phthalic anhydride **NITROGEN DIVISION** • Ammonia liquor • Anhydrous ammonia Diethylene glycol • Ethanolamines • Ethylene glycol • Ethylene oxide Formaldehyde • U. F. Concentrate-85 • Urea • **PLASTICS AND COAL CHEMICALS DIVISION** • ELASTEX plasticizers • Industrial solvents Naphthalene • Tar acids • Tar bases • **SEMET-SOLVAY DIVISION** • A-C polyethylenes — Emulsifiable for sizing and finishing compounds — Hot melt for coating and backing • **SOLVAY PROCESS DIVISION** • Ammonium chloride • Calcium chloride • Caustic potash • Caustic soda • Chlorine Cleansing Soda X, XX-cleansing compounds • Hydrogen peroxide Methylene chloride • Potassium carbonate • SNOWFLAKE crystals — SNOWFINE (sesquicarbonate of soda) • Soda ash • Sodium nitrite MUTUAL chromium chemicals — Chromic acid — Potassium bichromate Sodium bichromate — Sodium chromate • **INTERNATIONAL DIVISION** Marketing Allied Chemical products abroad

Items above appearing in light face capital letters are Allied Chemical trademarks.

Printed in U.S.A.


Look
what happened
to the corn
we took off
the cob
AB
Beauty is
what happened.
Beauty and color
and enduring charm
. . . captured in textiles.
We stand ready to supply
your company with materials
of highest quality—from the corn
we took off the cob.
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ANHEUSER-BUSCH, INC.
Bulk Corn Products Division
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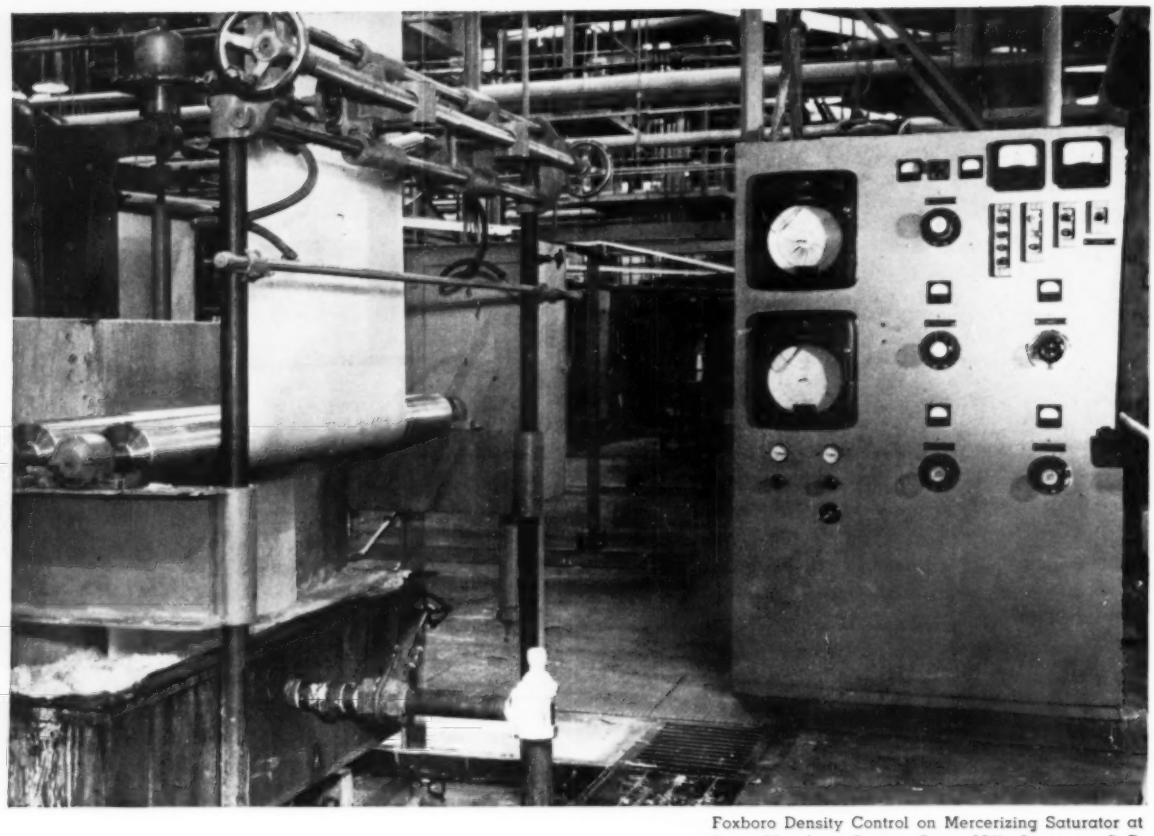


Foxboro Density Control on Mercerizing Saturator at Grace Bleachery, Springs Cotton Mills, Lancaster, S. C.

Springs Cotton Mills improves uniformity of mercerizing...

Foxboro Automatic Caustic Density Control pays for itself

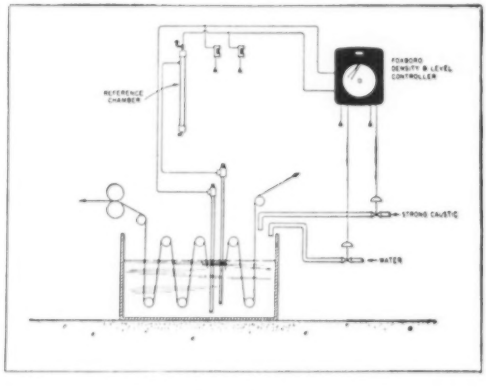
Caustic strength is maintained right where it's set at Springs Cotton Mills' Grace Bleachery, Lancaster, S. C. It's done simply and automatically with a Foxboro Caustic Density Control System.

This system eliminates hand-sampling, log-keeping, guesswork—produces better mercerizing through high uniformity of treatment. Changes in mercerizing speeds, or complete shut-downs, do not affect caustic strength of the bath.

And best of all, since it completely eliminates caustic overcharging, this Foxboro system will pay for itself in a matter of months on caustic savings alone. Little wonder Grace Bleachery now has *all 6* of their mercerizing ranges under Foxboro control.

This cost-cutting, automatic Foxboro system can be installed on new or existing equipment without interrupting operations. Get full details in engineering data sheet 220-8. **The Foxboro Company, 8410 Neponset Avenue, Foxboro, Massachusetts.**

FOXBORO
REG. U S PAT. OFF.



Typical application of Foxboro Density Control

Foxboro Density and Level Controller records accurate measurements of caustic density and liquid level. Controller also positions strong caustic and water (or weak caustic) valves to maintain set values.

Big...

or Small...

Bemis is the textile industry's top source of packaging materials

Whatever your needs...

Waterproof bale and roll covers* and bale caps*—Sturdy paper covers* for textile rolls and carpets—Burlap Tite-Fit® Tubing*—Burlap piece goods—Flip-Close®* and other fast-selling polyethylene packages for soft goods—Soft-finish cotton threads and twines . . .

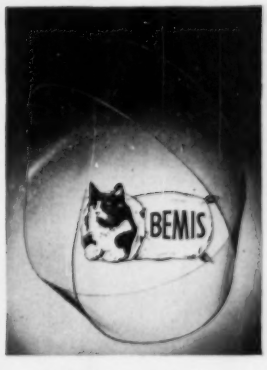
Bemis is your top, dependable source. Ask for the *full* story about the assistance Bemis can give you.

*Bemis *developed* these. It's natural that we know how to make them better.

For real economy, in both package and labor cost—Bemis Paper Specialty Bag. One operator loads it quickly, efficiently, economically.

Bemis Laminated Waterproof Carpet Covers give maximum protection at surprisingly low cost.

Bemis FLIP-CLOSE Poly Balers, for a wide range of consumer products, give both manufacturer and retailer more benefits than any other shipping-and-display package.

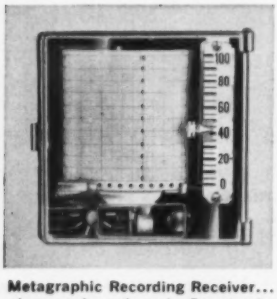


GENERAL OFFICES—
408 PINE ST., ST. LOUIS 2

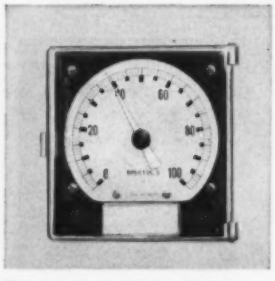
SALES OFFICES
IN PRINCIPAL CITIES

Typical installation of Bristol Metagraphic receivers. This modern instrument installation is part of main control panel at Celanese Corporation of America's new Celanese acetate film plant at Belvidere, New Jersey. Panel designed and built by Panellit Inc., Skokie, Illinois.

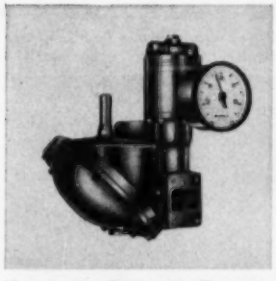
...and behind every panel, precision



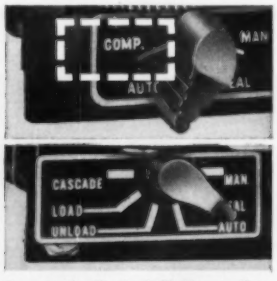
Metagraphic Recording Receiver... plugs and unplugs in 5 seconds. More than 36 pneumatic models, many electronic Dynamaster* potentiometer and bridge instruments — all with easy-to-read, human-engineered scales and charts.



Metagraphic Indicating Receiver... feature 9 inches of effective scale length, complete 10-second interchangeability with recorder of same type. Functionally colored pointers, plus long scale length makes distant reading easy.



Metagraphic Pneumatic Transmitters measure temperature, pressure, vacuum, absolute pressure, differential pressure, flow, liquid level or mechanical motion. Transmit on universal 3-15 psi pneumatic signal.



Pneumatic Control Stations allow utmost in operating flexibility. Four-position station (top) for computer-controlled refineries and chemical plants. Six-position station (bottom) for bumpless transfer in cascade systems. Many others available.

regardless of the nature of your measurement or control problem,

Bristol has matching miniature instruments for it

• ***Pneumatic transmission and control*** • ***Electronic potentiometers and bridges*** • ***Instruments for process computer systems*** • ***Electronic measurement—pneumatic transmission*** • ***Telemetering instruments*** • ***Recording gauges***

Now, for the first time, you can get matching instruments for graphic panels, consoles, or other set-ups for all your process requirements—including electronic, pneumatic, telemetering, and gauge measurements. Bristol miniature instruments all have 5" x 5⅛" panel dimensions, fit 4 9/16" square cutout, and harmonize perfectly with each other.

Pneumatic Transmission. Bristol Pneumatic Metagraphic receivers operate on a universal 3-15 psi signal. They indicate or record *pressure, differential pressure, absolute pressure, liquid level, flow, temperature, mechanical motion and many other variables.* Indicators and recorders interchange on a full plug-in basis. There are 36 receivers, 38 controllers, and widest variety of transmitters in the industry to choose from.

Process Computer Control Instrumentation. Now available: two entirely new Metagraphic control stations, for use with process control computer systems.

Dynamaster* Electronic Potentiometers and Bridges, using same time-proven principles as full-size instruments, can provide measurements from such electrical sensing elements as thermocouples, strain gauges, pH electrodes, photoelectric cells, etc. Same high accuracy and reliability as full-size Dynamaster instruments.

Electronic Measurement—Pneumatic Transmission. The Miniature Dynamaster Electronic Potentiometer and Bridge Instruments, described above, are now available as pneumatic transmitters—3-15 psi signal. They will make any measurement that can be transduced to an electrical quantity and transmit that measurement pneumatically for Metagraphic recording, indicating, and automatic control.

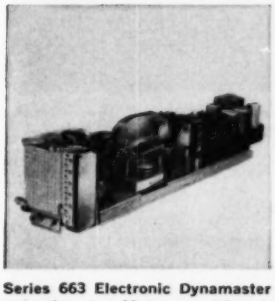
Telemetering. Metameter* telemeter receivers, in 5" x 5⅛" case, can receive the same measurements from remote locations as their full-size counterparts. Can be installed miles from transmitter center.

Standard Pressure Gauges . . . now also offered in miniature-case, plug-in and non-plug-in types. Ranges from 0-3 through 0-100 psi.

For complete data, write The Bristol Company, 103 Bristol Road, Waterbury 20, Conn. 8.50

**T.M. Reg. U.S. Pat. Off.*

BRISTOL measurement and control



Series 663 Electronic Dynamaster potentiometer. Motor can drive almost any auxiliary devices — retransmitting slidewires, alarm contacts, analog-to-digital encoders. Available for electronic measurement—pneumatic transmission.

Metagraphic Pneumatic Controllers can plug in on receiver case, as shown here, or directly at controlled process. Proved force-balance operating principle requires almost no moving parts, nothing to wear out. 38 different models.

BRISTOL

TRAIL-BLAZERS IN PROCESS AUTOMATION

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

CIRCLE 99 ON READER SERVICE CARD

DOW | CHEMICALS: *key to textile progress*

In the textile business, progress is not only pleasant—it's absolutely necessary. In no other industry can today's big seller become tomorrow's white elephant quite so quickly. Chemistry often plays a major part in providing the tools that lead to product improvement. Knowledge of textile chemical developments is vital to the textile executive, but his time is limited and he must get his news on the run. Herewith, then, are some capsule news notes on chemicals textile men ought to know about.

You may wish to check certain items in this advertisement and forward to those concerned in your company.

ROUTE TO:

_____

_____

_____

_____

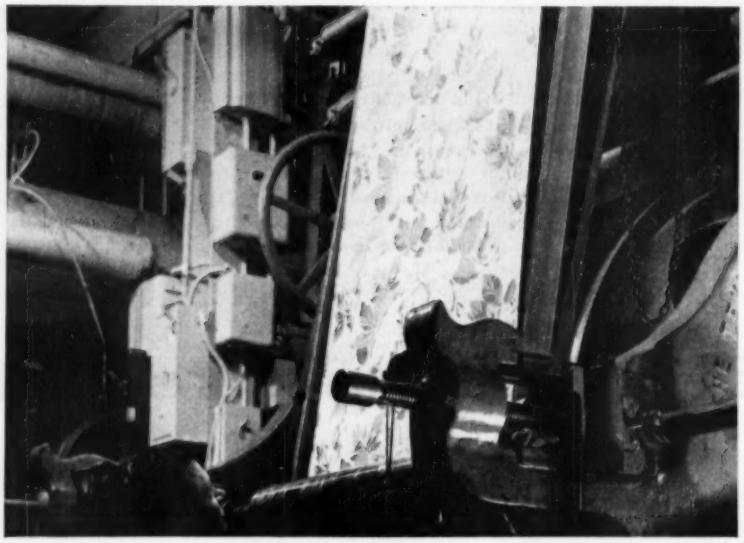
LATEX COATINGS RESIST PIGMENT PRINTING PASTE

Pigment printing that comes up smiling after repeated washings was once just a dream in the textile business. But not any more. Dow Latexes give the textile chemists a product that will do the job right. Fabrics printed with formulations based on this latex will withstand many washings.

One firm which has found Dow Latex ideal is M. Lowenstein & Sons, Inc., which uses it in its pigment printing process. (This, of course, is only *one* phase of the Lowenstein operation.) The house has long been known for fabrics of outstanding quality.

In addition to reduced crocking, formulations based on Dow Latex maintain this crock resistance and flexibility throughout extensive periods of aging. Extremely stable Dow Latex can be stored for extended periods of time prior to formulating.

This product is typical of the latexes being turned out at Dow to help solve the myriad problems of textile operators. There are literally hundreds of uses for Dow coatings in the industry, many of them money-savers as well as product improvers.



Pigment printing with Dow Latex is one phase of the extensive operations of M. Lowenstein & Sons, Inc. Lowenstein has a solid reputation in the textile industry for product reliability.

In felt and burlap coating, rug backing, fabric saturation, fabric wall covering, upholstery backing, rubber coating, pigment printing, hair-pad binding, vinyl coated fabric, glass reinforcing, shade cloth, nonwovens, scrap foam binding and solvent resistant coatings, Dow Latexes have proved themselves in leading textile mills throughout the country.

Many tough textile processing questions have been answered in the Dow laboratories, and textile men with production problems have learned that it's a good idea to consult Dow technicians about the use of latexes in new or unusual applications.

Plants engaged in any of the processes mentioned above will find consultation with Dow people valuable and informative—and they may come out of it with just the right latex to

clear that bottleneck that's been slowing production. It's worth serious consideration.

WRINKLE REMOVER . . .

ethylenediamine resins

Ethylenediamine has for many years served as the base for resins used in treating finished cotton. These resins provide wrinkle resistance and improved wrinkle recovery, thus making possible today's "wash-and-wear" fabrics. As an extra bonus they give improved dimensional stability and higher color retention.

Now EDA 98%, a product pioneered by Dow, offers cotton finishers greater quality and purity than ever before. In addition, more and more resin producers are finding that by using EDA 98% as a starting material they can gain important savings in production costs.

EDA 98% is the result of years of research, aimed at producing resins which are lighter in color and brighten the finisher's profit picture.

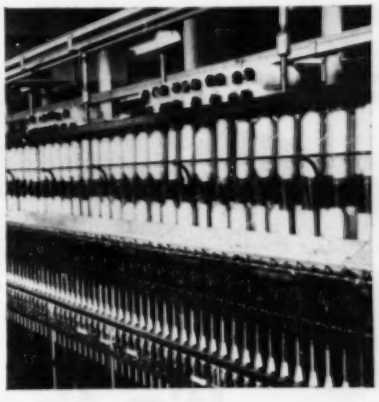
Our new bulletin "Dow Ethylene Amines", available upon request, discusses this and many other applications for EDA 98%.

POLYOLS (WORLD'S WIDEST LINE)

work for textile industry

The largest and most varied line of polyols in the world comes from Dow —and it's a safe assumption that one or more of them is at work in every textile operation in the country. Widely used as intermediates by manufacturers of textile chemicals, they also have value in a great number of applications in the textile processing plants themselves.

Especially important in the textile field are the polyethylene glycols, thanks to their water solubility, hygroscopicity and lubricity. As intermediates, they are vital to the production of the fatty acid esters used in washing, softening, dyeing and finishing—all operations where controlled surface action is important.



The polyglycols are easy to use. They need no solubilizing agents and can be mixed simply by stirring them into the water solution. Important also to textile operators, they are low in toxicity, nonstaining and do not become rancid or sticky.

A few of the uses the textile industry has found for polyethylene glycols follow: yarn lubricants, sizes, emulsifiers, dispersing agents, dye solvents, antistatic agents, sizing or desizing fillers, scouring aids, fiber conditioners, finishing agents, leveling agents in dyeing.

★ ★ ★ ★

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FOUR MORE *with special meaning for textile men*

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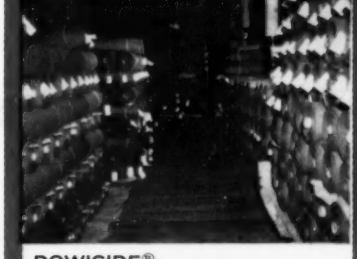
Excellent solvent for maintenance cleaning. Safer, under most conditions of use in the textile industry, than any comparable solvent.

SODA ASH
There's a 44-page booklet available for textile operators about this indispensable product. Used in dye assist, scrubbing and bleaching.



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The best equipped textile mills in the United States have been gaining experience with Herr "M" type Conical Rings and have reported wonderful success during the past four years. They report a definite control of lubrication far superior to any wick lubricated ring. They have achieved a reduction in oil, a saving in maintenance, an increase in spindle speed, a reduction in yarn breakage, and have produced a much cleaner yarn.

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You Hear With Your Mind

- Sometimes communications break down because a "listener" isn't really listening; his ears are getting the sound, but his mind isn't getting the message.
- What can you do about it? Here are some ideas that will help.

By S. G. WILLIAMS, Management Consultant

The function of the ears is to alert, but hearing is done with the mind; and failure to recognize this phenomenon is responsible for many of the communications breakdowns met by supervisors.

Another way of saying it is that a sound must go through two doors in order to arrive: it must penetrate the ears, and it must enter the mind.

The "double take" of comedy is an illustration of a slight delay between the two doors. The comedian receives the message and then, a second or two later, realizes and reacts to the message. It is very funny on stage or screen. It is not at all funny in supervising a department. Too often the second door is never entered.

The problem, then, seems to be that of getting your orders, requests, suggestions, and other messages not only into the ears but into the minds of your listeners as well. And when it is your turn to listen, be sure that the door to your own mind is open.

How To Be Heard

You want your subordinates to know what you are saying to them, not only that you are speaking to them. It is relatively easy, if you will take time for it, to make sure they both receive and realize your orders.

Watch Their Eyes

Frequently, their eyes will show it if your listeners are thinking about something else or are unable to understand your meaning and intention. There is a certain familiar look in the eyes that means they're looking at you only because they have to be, but what they're actually seeing is a wrong-colored yarn that's worrying them or a ride home they might miss if you talk too long.

Ask Them To Repeat

This listening failure can be embarrassing to both of you—to them if they haven't "heard," to you because the procedure seems kind of childish. But if they can tell you back, in their own words, what you told them, then hearing has probably taken place. You can relieve the possible embarrassment by saying something like this:

"I'm not sure I explained the idea too clearly, Helen. Tell me what it is that you think I want you to do."

This approach gives you a reason for asking, and it gives the listeners an out. They can always say (now that they recognize that they weren't hearing and should have been), "It would be clearer, I think, if you'd tell me again."

Ask Them Questions

One intelligent probe such as "How do you plan to do it?" can make it evident whether or not you've reached their minds.

Let Them Ask Questions

This procedure does double duty:

1. It gives them an opportunity to get a better understanding of what you want.
2. It provides a way for you to check on the extent and accuracy of their "hearing."

How To Hear

Some supervisors' communications difficulties center not on the problems of being heard but instead on the more-personal problem of hearing what is said to them.

Open Both Doors—or Neither

Overseers and foremen are busy people with many things on their minds. For this reason, they should be prepared to say, whenever it is necessary, something tactful such as:

"Dick, I'd like to really hear what you have to say, but right now I can't turn my whole mind to it. Could you come back in half an hour?"

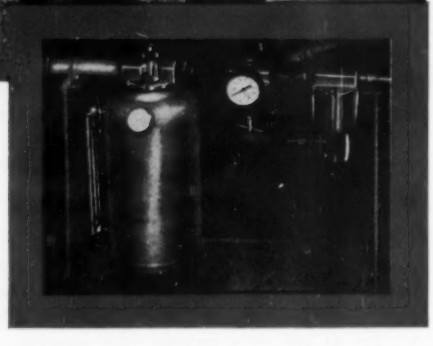
Most people would welcome such an opportunity in preference to talking into your ears while your thoughts are somewhere else.

When there is an urgency in the petitioner, something that should not be postponed, you must consciously turn off the other thoughts, just as though you reached up and turned off a light, and thus open your mind as well as your ears.

Look At the Speaker

Don't just turn your face in his direction. *See* him. Go even farther: try to see into him, see what his meaning is, what the feelings are that lie behind what he is saying. There is a great probability that you will discover you are hearing better than you ever heard before, learning information about the people around you that can be invaluable in all your future listening.

CONTINUED ON PAGE 136



ERWIN MILLS, Inc. Converts One Dry Can Stack . . . then another . . . then a third to NORGREN MICRO-FOG

In the fall of 1957, MICRO-FOG lubrication was installed at Erwin Mills, Inc., Cooleemee, North Carolina, on a stack of 34 dry cans. During the months that followed, results were so outstanding that they decided in April, 1958, to make the same conversion on another stack of 36 dry cans, and then a third applicaton of Norgren MICRO-FOG was made to another dry can stack in July. Total results amounted to big savings in maintenance and lubricant costs, better lubrication for the bearings and *no product contamination.*

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MICRO-FOG Lubrication provided these benefits—

- Bearing Failures Eliminated
- No significant bearing wear in 12 months operation
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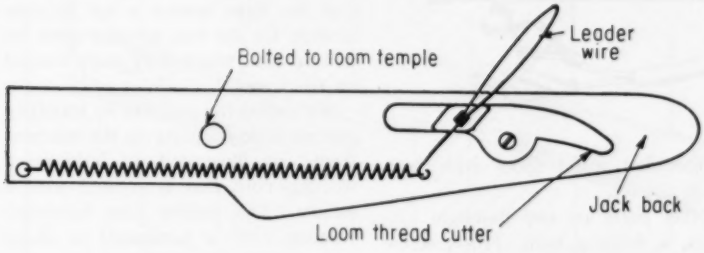
- Improved lubrication eliminated uneven bearing drag
- Hand lubrication of bearings ended
- No more lubricant dripping from bearings
- Considerable saving in lubricant and maintenance costs

For complete information about this installation call your nearby Norgren representative listed in your telephone directory—or WRITE FACTORY FOR BLUE-PRINT MF-27.

Pick-and-Pick Fabrics Are Made With Temple Knife



We often insert a single pick of filling into fabrics woven on our 4x1 multishuttle looms. The looms are not pick-and-pick looms, and therefore we have to float one pick of filling and cut it off later.

We now have a homemade knife on each end of our looms that cuts off these floating ends automatically.

The knife main section is made from a worn dobby jack back with both ends that hold the top and bottom hooks cut off. The over-all section is 10¼ ins. long. One edge is cut square, and the other is curved as shown in the accompanying sketch. Then the curved end is ground on one side to form a cutting edge.

A hole is bored in the jack back near this cutting edge, and a complete movable cutter-knife assembly from the loom thread cutter is screwed into the jack back so that both cutting edges meet.

A section of discarded top harness wire (leader wire) is bent to form a hook at one end and is doubled over at the other. Then the wire is welded to the loom thread cutter.

Another hole is bored in the jack back 2¼ ins. from the square end to bolt it to the loom temple.

A third hole is bored near the square end of the jack back to hold a small coiled spring. After the jack back is fastened to the loom temple, the spring is hooked to the top harness wire.

One complete homemade knife is placed on each loom temple.

The assembly operates in this way:

1. The spring normally keeps the two cutting edges together.

2. But when the loom lay moves forward, the handrail strikes the top leader wire on the knife and opens the knife.

3. Then the floating pick of filling enters the open knife.

4. When the lay moves backward, the top leader wire is released and the spring closes the knife to cut the pick of filling close to the fabric selvage. (K-3003)

Cardboard Separators Keep Yarn From Being Damaged

In trucking yarn cones from one department to another, we used to have many damaged cones caused by careless handling. Also, the trucks were not filled to capacity because of the random position of the packages.

We overcame this trouble by saving and using the cardboard separators that some producers use to protect yarn in shipment. These separators are pieces of cardboard with holes cut through them to fit yarn cones.

One of these separators is filled with cones and placed on a flat-bed truck. Then five or six more layers of cones, separated by cardboard, are stacked on top of the first layer.

This arrangement keeps the yarn from being damaged and enables us to put more packages on each truck. (K-163) *Joseph A. Sewesky, Berwick, Pa.*

Signal System Indicates Location of Ends Down

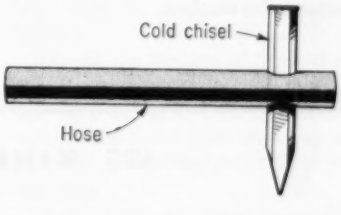
In order to make our spinners' job easier and reduce patrolling for ends down, we have built a simple signal system that automatically indicates the approximate whereabouts of an end break as soon as it occurs.

The arrangement consists of a spring pin fastened to the bottom of the spinning-frame lappet so that yarn tension keeps it pulled away from an electrical contact. When an end breaks, the pin snaps against the contact and a small bulb lights up on a signal panel attached to the foot of the frame.

The panel has four bulbs, marked A, B, C, and D, each of which is connected to one-fourth of the frame's spindles. The operator knows which group of spindles corresponds to each bulb, and when a light goes on he goes immediately to that section of the frame and pieces up the end.

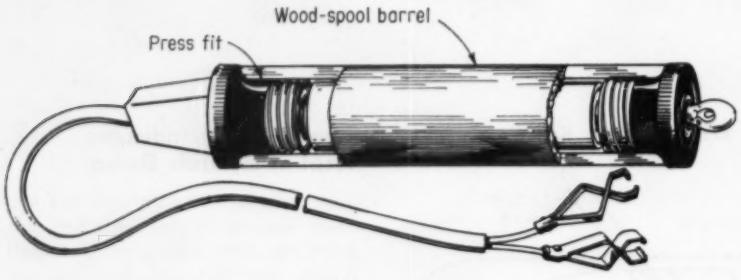
The system saves much needless walking and searching for broken ends. (K150) *M. A. Shariff, Karachi, Pakistan*

Rubber Hose Holds Chisel To Save Mechanic's Fingers



Here's a quickie idea for a young mechanic to save his fingers and his temper: Cut a piece of rubber hose 10 ins. long. Then cut a hole in one end of the hose to hold a cold chisel or punch as shown in the sketch. (K-158) *W. E. Gilmore in The Lincoln Stabilizer*

Homemade Low-Voltage Tester Tests Apparatus Safely



A homemade electrical tester made from a few scrap parts and a few new inexpensive parts will test low-voltage wires, coils, and small apparatus with the power source off. As a result, there's no danger of shocks or burns to the electrician.

The case for the tester is made from a discarded wood spool with both heads cut off.

Other parts are two flashlight batteries, a flashing bulb, 110-v. screw plug, 110-v. cord plug-in., small coil spring, and two wire clips and wires. The parts are assembled as shown in the sketch. (K-3496)

Numbered Spindles Save Time for Winder Fixer

We have three winders serviced by one fixer who works on the first shift. When spindles went bad on the second and third shifts, the supervisors formerly told the fixer which frames to repair. The problem was that the fixer wasted a lot of time looking for the bad spindles since he had no idea where they were located on the frame.

We solved the problem by installing two portable supports on the machine frame, as illustrated, to hold up a wooden core that is rotated with a handle. The hollow (for lightness) wooden core is hexagonal in shape and covered with cloth.

With this modification, we are able to wind our tricot fabric into neat rolls with ease and speed. (K-4070)

Hokao, Fukayo, Fukui-ken, Japan

Painted Needle Is Used To Time Knitting Machines

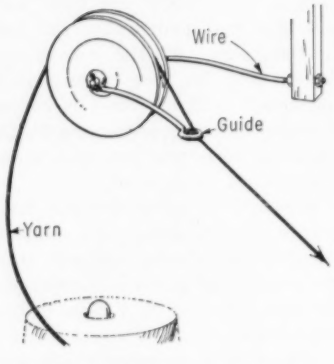
On all pattern-wheel knitting machines, setting of a pattern requires the fixing of a starting point from which all wheels will be timed or synchronized. The starting point is usually designated by a semipermanent red or yellow pencil mark along one of the cylinder tracks.

It is quite usual to find machines with a dozen or more such marks dating back to various patterns that have been set on the same machine. The fixer may be confused when he sets up a pattern, since he may mistake one mark for another in the process of setting up a whole set of wheels all around the machine.

A more-satisfactory method is the use of a single "timing needle" whenever a pattern is to be set on a machine.

Take an ordinary latch needle and paint its protruding butt with lacquer. Yellow is perhaps the most outstanding color. Then use this needle as a permanent mark for the commencement of each pattern. This arrangement prevents marking the cylinder, insures that the right mark will be followed by the fixer at all times, and has the added advantage that the timing needle can be totally removed from the cylinder or changed in position. (K-148)

Pulley and Piano Wire Control Yarn Tension



Stretch and metallic yarns always present problems when they are fed to a knitting machine. The slightest drag on the yarn will show up in the fabric as an imperfection. The wider the cone, the more resistance it offers the yarn being taken off.

A free-wheeling pulley to which a guide is attached with a piece of stiff piano wire and a spring guide will help prevent drag irregularities from causing streaks in fabrics.

As the yarn is drawn into the knitting elements, this attachment will vary the tension placed on the stretch or metallic yarn and compensate for any irregularities in tension. (K-3660)

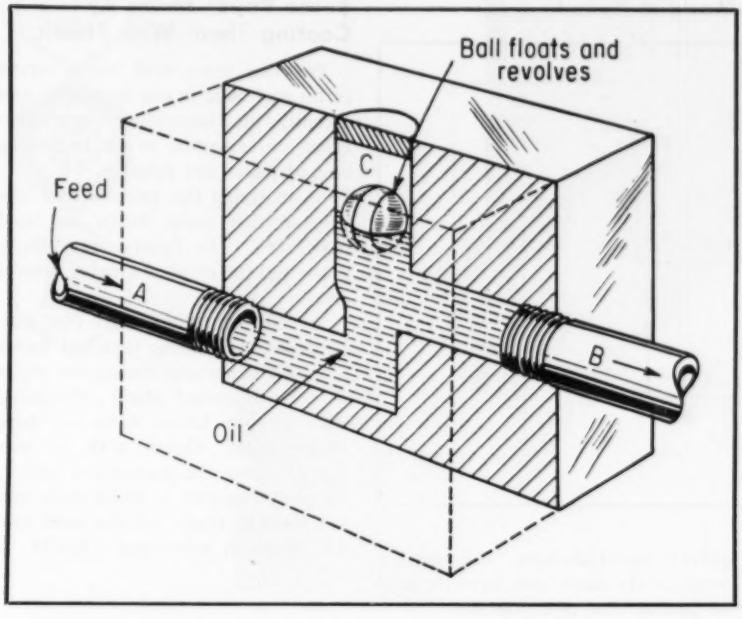
$25 KINK WINNER

The $25 prize for the best Kink in August was won by:

Laurence Koch, New Braunfels, Tex., for his Kink "Lockstitch Lever Keeps Welt End From Unraveling"

WATCH FOR NEXT MONTH'S WINNER

Check Oil Flow Visually To Keep Stock Conditioned

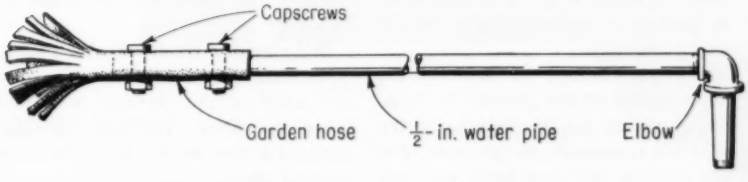


Whenever oil or lubricants are being applied to fibers during the opening or picking process, it is necessary to insure that the flow remains constant at all times. Hundreds or even thousands of pounds may be spoiled because the oil or lubricant runs out.

To avoid this danger, take a 3x3x2-in. block of Plexiglas and drill holes *A* and *B* from opposite ends on a different plane. Then drill hole *C* from the top to connect *A* and *B* internally. Place a colored plastic ball in *C* and plug the hole at the top.

Connect the indicator to the supply line at a convenient point for observation. As the liquid flows from *A* to *B*, the colored ball revolves and indicates the liquid is moving. (K-116) *H. A. McLean, Huddersfield, England*

Garden Hose and Water Pipe Make Boiler-Cleaning Tool



An effective brush to clean boiler tubes can be made from a short piece of garden hose. Cut the hose to a 12-in. length.

Slip one end of the hose on a ½-in.-dia. water pipe long enough to extend all the way through the boiler tube. Fit an elbow and a shorter piece of pipe to one end of the water pipe for a handle.

Bore two ¼-in.-dia. holes through both the garden hose and water pipe. Then bolt them together with two short capscrews.

Split the end of the garden hose into 2-in. strips for a brush-like surface.

To clean a boiler tube, run the tool through the tube with a turning push-pull movement. Then keep turning the brush in one direction to pull out dust and scrapings. (K-2983)

Rubber Tube on Suction Pump Makes Bolster Cleaning Easy

Old oil is hard to pump out of some types of machines such as doublers with long bolsters. The average suction pump cannot reach the bottom of the bolster.

We solved this problem by sticking a rubber tube over the nozzle of our pump to give an extra foot or two of length. This simple modification makes it easy to pump out used oil from hard-to-reach places. (K-153)

Modified Tension Control Improves Stretch Socks

Many hosiery mills producing stretch socks have trouble in running stretch yarn. Our experience was that when the yarn changed from the body to the heel or toe of the sock, the yarn that went out of action jumped right out of the finger. This condition caused a lot of waste and machine stoppage and kept the knitters hopping.

Here's how I solved the problem:

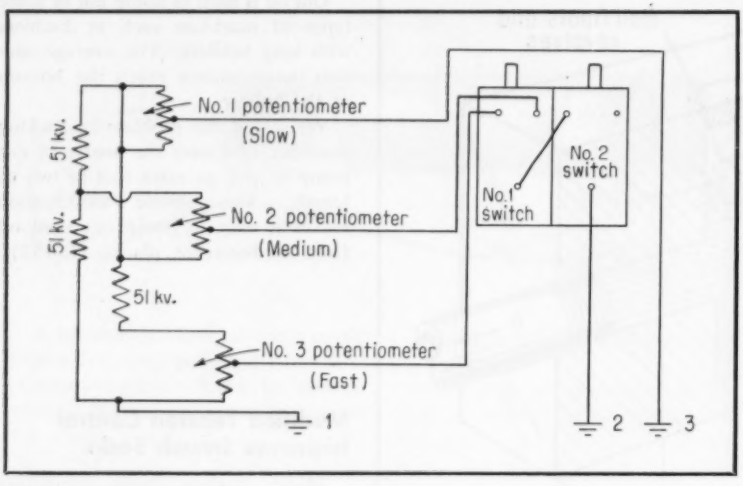
The knitting machine was changed over to knit the entire sock with one (heel and toe) yarn finger. This arrangement eliminated multiple changing of fingers.

To release tension completely from yarn in the body of the sock and to exert tension on the yarn during the knitting of the heel and toe, I screwed a wire to the take-up thrust bar and put one end between the tension disks. This arrangement separated the plates and took tension off the yarn while the body of the sock was being knitted.

During the knitting of the heel and toe, the take-up thrust bar raises up and lifts the wire from between the disks. The disks then close up and exert the proper amount of tension on the yarn.

This simple arrangement made it possible to knit from one cone with the yarn under tension during the heel and toe operation and completely relaxed at other times. Quality of our socks improved, machine downtime was reduced, and our knitters are a lot happier. (K-162) *Rodolfo A. David, Guatemala City, Guatemala*

Two Switches Control Knitting-Machine Speed



Our Fidelity 400 knitting machine formerly had only one cam-operated potentiometer to control speed. The back-and-forth action plus oil getting into the mechanism caused the potentiometers to get out of adjustment. The result was a lot of needle breakage and loss of production.

We solved the problem by putting two BZ-2RW Micro switches and three potentiometers on each machine and wiring them as illustrated. This arrangement permits the speed to be set with the potentiometers locked to prevent speed changes. The switches work on the same cam formerly used to operate the potentiometer.

When Nos. 1 and 2 switches are down, the machine is set by No. 1 potentiometer to run slow. When No. 2 switch is raised by the cam, the machine is set by No. 2 potentiometer to run at medium speed. When Nos. 1 and 2 switches are raised by the cam, the machine is set by No. 3 potentiometer to run fast. The arrangement has increased production. (K-161) *Arthur Morris in Micro Tips*

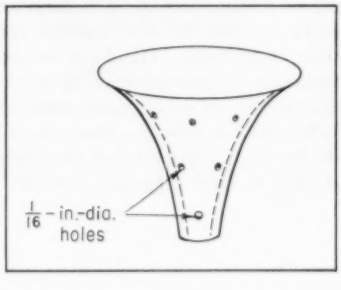
Reuse Paper Forms by Coating Them With Plastic

We use more and more report forms each year in our large mill, and recently the accounting department called our attention to the increasing cost of paper and printing.

In analyzing this problem, we discovered that many forms are used only once. The figures are consolidated and the original form is thrown away.

We cut our office-supply cost substantially by printing standard forms on heavy paper and coating the paper with a transparent plastic. Personnel who fill out forms write on these plastic-coated sheets with a wax pencil. After the figures are posted, the plastic surface is wiped clean and the form is ready for the next job. The saving is substantial. (K-175)

Holes in Coiler Trumpet Keep Fly out of Sliver



Our card coiler heads and drawing-frame calender rolls used to collect lint that would get into the sliver trumpet and cause uneven places in the sliver.

We remedied the trouble by drilling $\frac{1}{16}$-in.-dia. holes in the trumpet to let out some of the air that is sucked in by the sliver. The holes are distributed so that no two lie in the same vertical plane.

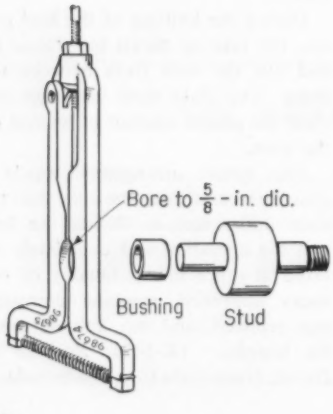
The reduction in air pressure going into the trumpet and the expulsion of air around the trumpet has caused a remarkable reduction in the amount of fly going into the sliver.

Another advantage is that the tendency for the leading ends of fibers to form hooks has been eliminated.

Yarn quality, evenness, strength, and appearance have improved substantially. (K-151)

Bushing in Loom Giveway Repairs Worn-out Parts

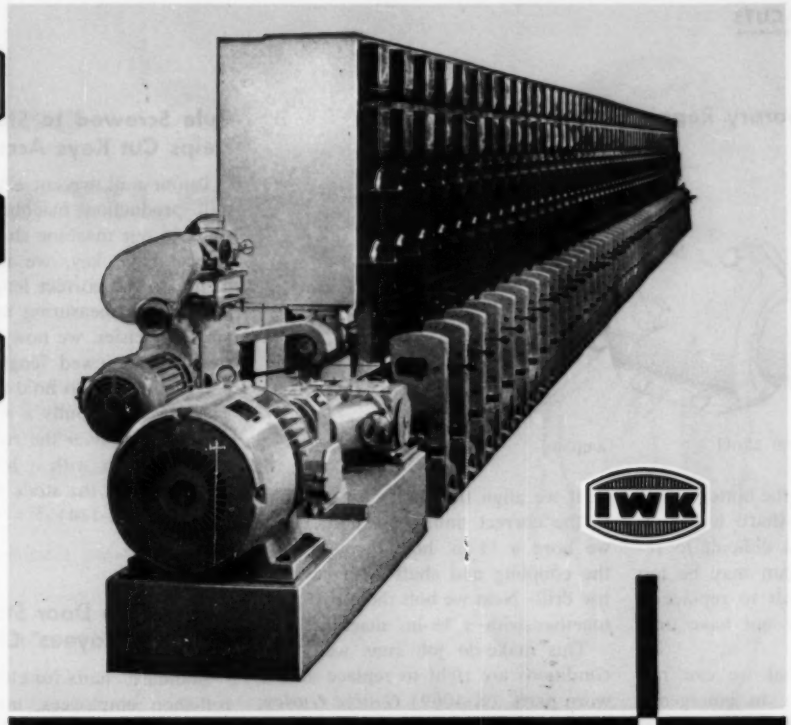
We used to discard the connector end and giveway arm on the filling detector of our W-3 looms when they wore out. But now we make worn ones last longer than the original ones by putting a bronze bushing at the stud position.

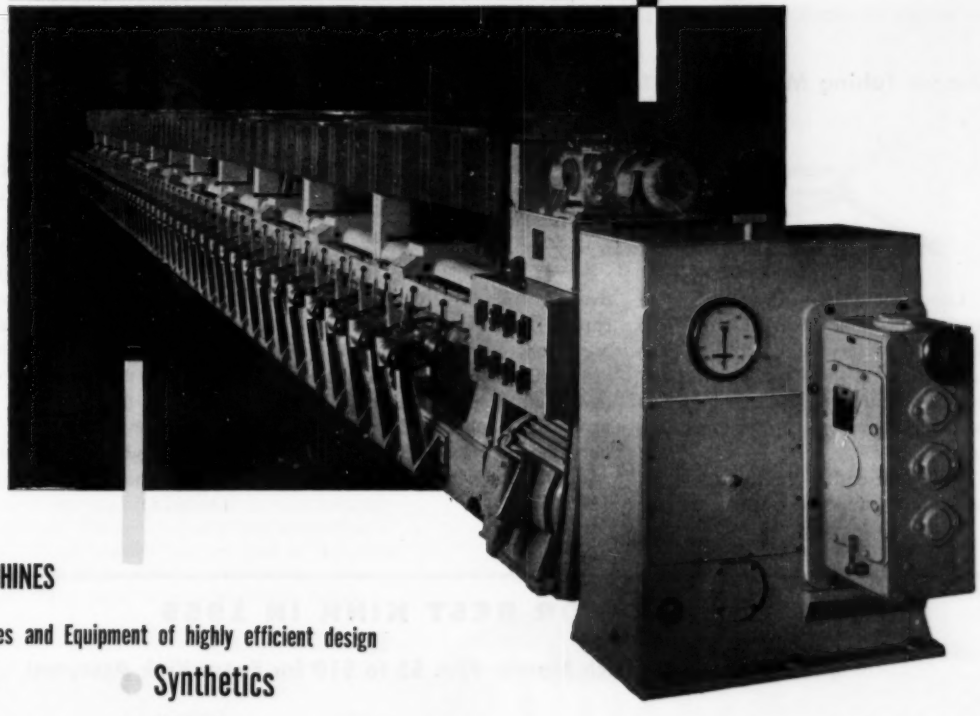


For the bushing, we drill out the worn section of the giveway to ⅝-in. dia. Then we put the bushing on the stud and reassemble the giveway. The old stud in the cam lever can still be used if it is worn only on the sides.

Bushing specifications are: ⅝-in. outside diameter, ½-in. inside diameter, and ½ in. long.

This rebuilding job cuts our supply cost, but more important it eliminates adjusting the stroke of the detector-rod head and lets us put in a new bushing when it's worn without tearing down the giveway. (K-139) *Jack Tanner, Dublin, Ga.*





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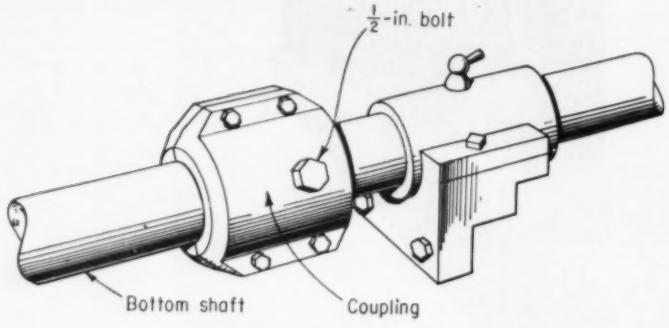
Bolt Makes Temporary Repair to Loom Bottom Shaft

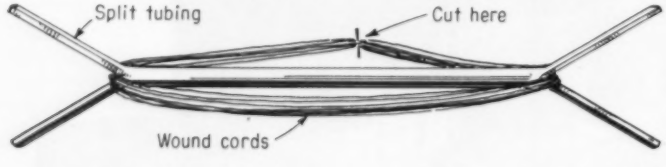


A worn keyway on the bottom shaft (camshaft) of split-shaft looms is often found when it's difficult to replace it: the yarn beam may be too full to get to the shaft to replace it or the loomfixer may not have time to replace it.

We have found that we can run these worn shafts in an emergency by bolting the shaft to the coupling. First we align the shaft and coupling to the correct timing position. Then we bore a ½-in. hole through both the coupling and shaft with an electric drill. Next we bolt these two parts together with a ½-in. machine bolt.

This make-do job runs well until conditions are right to replace all the worn parts. (K-4069) *George Gurley, Charlottesville, Va.*

Copper Tubing Makes a Jig To Cut Harness Cords



Loom-dobby end cords and other cords made from jacquard twine have to be cut to specific lengths for each application. A good tool for measuring these cords to even lengths can be made from a piece of copper tubing.

Split each end of the tubing with a hacksaw to a point marked for the over-all length of your cord. Then spread the split sections apart to form V-sections at each end of the tubing.

Pull the cord off the supply package by wrapping several lengths around the tubing. Cut through the cords about the center of the tubing, and your cords are the correct length. (K-146)

Rule Screwed to Stock Rack Helps Cut Keys Accurately

In our mill, we cut all our keys for mill production machines from key stock in our machine shop. When we cut a single key, we measure it in inches to the correct length.

To make measuring more accurate and also easier, we now have a 12-in. steel rule screwed lengthwise at the end of the rack to hold the key stock. The machinist pulls a section of the correct stock over the rule, marks the correct length with a hand hacksaw, and then cuts the stock with a power hacksaw. (K-114)

Screw-Type Door Stops Raise Employees' Chairs

Standard chairs for cloth inspectors, roll-shop employees, and other employees' jobs throughout our mill are often too low. Fixers in these departments often build up the chair height with blocks of wood and other dangerous makeshift methods.

We recently found a safe method for raising the height of a chair that can be either permanent or temporary. We use four screw-tipped rubber-end door stops, one for each leg of a chair.

We drill a lead hole slightly smaller than the screw of the door stop through the center of each chair leg. Then we screw in the stops. Later if we want the chair lower again, we screw out the stops.

This job is easy, the chair is safe to use, and employees do more work because they reach the job more easily. (K-3678)

$500 FOR BEST KINK IN 1959

$25 for Best Kink Each Month—Plus $5 to $10 for Every Kink Accepted

A KINK . . . is any idea that will cut costs, improve quality, reduce work, increase production, or make work easier.

You can send in as many Kinks as you want to any month.

All Kinks are paid for on acceptance.

Previously published Kinks are not eligible for prizes.

Let us know if you don't want your name published.

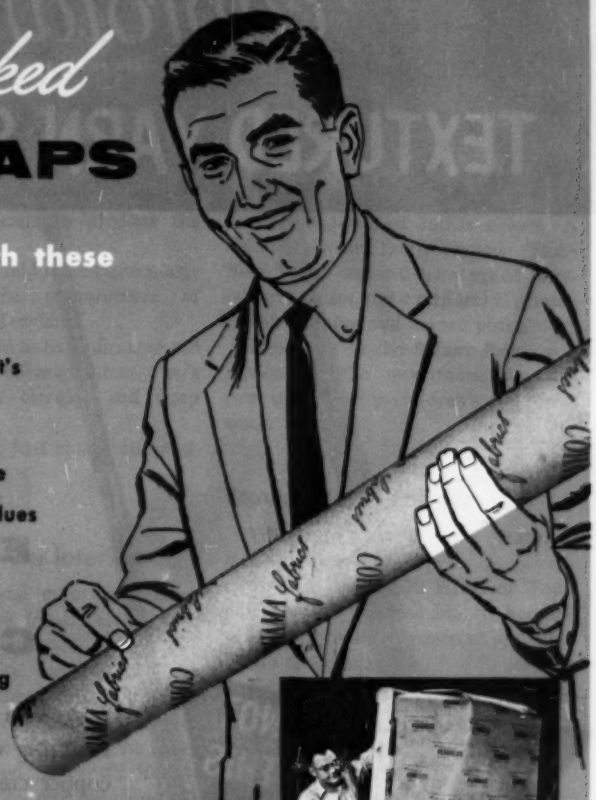
Prize winners are selected by TEXTILE WORLD readers. At least 300 will be asked each month to vote on the best Kink that month. In case of ties, duplicate prizes will be paid.

Send Kinks to:
Kinks Contest, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.

THILCO *Trademarked* TEXTILE WRAPS

combine positive protection with these important sales advantages:—

- Provide Brand Name identity through product's entire distribution sequence
- Help trade-up product's quality
- Add colorful eye and buy appeal to package
- Increase prestige and glamorization values
- Stimulate repeat orders and profits
- Reduce labeling and packaging costs
- Simplify inventory and stock control
- Provide low cost "traveling" advertising
- Eliminate "look-alike" product competition



Trademark and advertising two color decorated Waxsorb cone wrap for Bemis thread.

Trademark decorated non-staining Thilco-Tuf — a heavy-duty duplex wrap for carpets, upholstery and bulk fabric shipments.

Whisper-weight wax or poly-treated cone wraps and tissues that prevent oil evaporation and seep through—Feather-weight wraps for general fabric protection—or, heavy-duty kraft paper specialties that provide transport and storage protection at its best are yours with Thilco Textile Wraps.

NO MATTER WHAT YOUR PROBLEM—there's a Thilco protective paper produced especially for your specific requirements. Best of all, you get much more than just protection because Thilco — and *only* Thilco, provides these papers PRINT-DECORATED with your Brand Name for complete identification and promotional possibilities for just a few cents more cost than plain protective wrappings. Investigate their many sales advantages, today.

GET THIS FREE SAMPLE KIT
Contains trademark decorated samples of all popular paper grades in the Thilco Textile wrap line. Write today!

Trademark decorated protective fabric wraps.

THILCO *Functional Papers* FOR TEXTILES

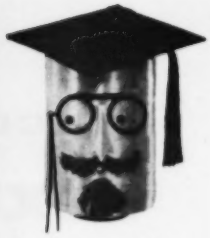
OFFICES
NEW YORK
BOSTON
CHICAGO
DETROIT
CINCINNATI

THILMANY PULP & PAPER CO. • KAUKAUNA • WISCONSIN

caprolan®

THE NYLON FIBER BY ALLIED CHEMICAL

TEXTURED YARN SEMINAR



#12 of a series

HOW TO STOP END BREAKAGE AND CUT STREAKING

There's an easy way to prevent end breakage and minimize streaking with textured filament yarns. Just change your copper creel tubing to plastic tubing. The filaments will glide smoothly through the plastic tubing to the needles without damage.

In changing to the new filament yarns, most problems can be avoided if you keep this fact in mind:

FACT: Textured Filament Yarns and Spun Yarns are not the same.

A few important changes are necessary for best results. We'll be happy to help you off to a fine start in adapting Textured Caprolan to your product lines. Our technical service, end-use development and fiber application laboratory staffs are always available to assist you. Call us any time.

Fiber Sales and Service Allied Chemical *National Aniline Division*

261 Madison Avenue, New York 16, N. Y.

New Low-Denier Polypropylene Fiber

Reeves Brothers, Inc., is now producing a low-denier polypropylene fiber.

The new fiber is available in both staple and continuous multifilament yarns. Individual filaments range from 3 to 22 den.

John H. Karrh, manager of Reeves Plastics Div., is directing production and sales operations.

Nonflammable Drapery Fabric

Virginia Fibre Corp. and Dow Chemical Co. have developed a new permanently nonflammable casement and drapery fabric that can be washed or drycleaned.

The fabrics have good resistance to shrinking, sagging, and gas fading and have good light stability. They are rotproof and mildewproof.

Rovana, Dow's saran microtape, is used in the warp; and Verel and Coloray are used in the filling.

New Generic Term for Vinylon

Air Reduction Chemical Co. has started using the generic term "vinal" to identify the polyvinyl-alcohol fiber known abroad as "vinylon," which the company's Fiber Dept. is marketing.

Under the new Textile Fiber Products Identification Act, vinal is described as a synthetic fiber of at least 50% PVOH units and at least 85% total alcohol and acetal units.

ICI's New Yarn Process

Imperial Chemical Industries Ltd. has bought the patent rights for a new type of man-made-fiber yarn that combines a high degree of bulk with a low degree of stretch from Cheslene & Crepes Ltd., Macclesfield, England. ICI has trademarked the product Crimplene and is licensing a number of British producers to produce the new yarn.

The process is said to be particularly adaptable to the manufacture of bulked yarn of Terylene.

The yarn is said to have dimensional stability. It can be used directly as a singles yarn for circular and warp knitting.

Crimplene will first appear in hand-knitting yarns.

Lurex Used in Car Interiors

Three new small cars will feature interior-upholstery fabrics styled with Lurex metallic yarns.

Swift Mfg. Co. has supplied the Dakar fabric featured in the Dart 118, a Dodge Div. car. Bachmann-Uxbridge Worsted Co. has supplied the Nub Tweed fabric used in Ford's Falcon Deluxe Model. Sidney Blumenthal's Valencia is used in Plymouth's Valiant De Luxe four-door sedan and station wagon.

Lowenstein's New Prints

M. Lowenstein & Son is featuring many feminine prints in its spring-summer over-the-counter collection.

Pale porcelain-toned flowers and fruit, an 18th-century French wallpaper design in a steel-engraving technique, all on tinted or white ground, are being shown in the Signature-prints collection.

The Signature collection is also featuring heraldic and American motifs printed on new-season colors of lotus leaf, creamed corn, and pale amber. Dusty pastels in medium tones are also shown. A new wash-and-wear broadcloth called Pima Donna is available in 40 solid colors.

The Autograph collection carries through the pale tones in spaced geometrics and delicately drawn miniature bouquets. A water-color technique is used for all-over florals in natural colors.

The collection also shows batiks in dark, brilliant East Indies colors. A children's-wear fabric called "Story Book" (pen-and-ink drawings of fairy-tale princesses and courtiers) is printed in soft oranges and mauve pinks.

Important in the Belaire-Prints collection are the miniatures, tiny all-over patterns, for children's and teens' wear.

Travis's Topel Fabrics

Travis Fabrics is now featuring three fabrics with Topel.

Topflax is a 70-30 blend of Topel and flax. It is available in heraldic prints for men's, women's, and children's sportswear.

Topel-Kodel is a 55-45 blend available in lightweight batiste and medium and heavier poplin. It may also be treated with a water-repellent finish.

Topel-cotton is an 85-15 blend in slub and crash weaves. It is available in light and deep tones.

Belfast Licensee Outside USA

Deering Milliken Research Corp. granted the first license to manufacture Belfast self-ironing fabrics outside the United States to Fothergill & Harvey Ltd., Littleborough, Lancashire, England.

Products of Belfast fabrics have been on the U. S. retail market since the fall of 1958.

New Nylon-Hosiery Yarn

E. I. du Pont de Nemours & Co., Inc., introduced a new stocking-nylon yarn in 15-den. late last month. It is called Sparkling Nylon and is intended for special-occasion hosiery.

The new yarn creates a lustrous, luminous effect. Stockings knitted of this yarn gleam with many highlights. The sparkle is not achieved by a finish, additive, or treatment but by a structural change of the nylon yarn. The sparkle will not wash out, fade, or wear out.

Stockings in the new yarn in both seamless and full-fashioned styles will be offered by manufacturers to consumers by mid-November in a wide range of colors, including golds and silvers.

Aluminum-Fabric Clothing

Aluminum fabric for clothing uses has been developed by the Shirley Institute, Manchester, England.

A sheet of aluminum foil one-quarter of one-thousandth of an inch thick is fastened with adhesives to the fabric. This laminate is then run through a specially designed mangle that makes the foil adhere to the fabric and perforates the foil so that it will breathe with the fabric.

The resulting fabric retains both the heat-reflecting qualities of aluminum and the fabric's natural permeability to water vapor. It can be treated for crease resistance and water repellency.

Commercial production is expected in about two years.

501-Nylon Carpet Producers

Bigelow-Sanford Carpet Co., Inc., Cabin Crafts, Inc., and Callaway Mills, Inc., have been licensed by Du Pont to produce carpet of 501 nylon. James Lees & Sons Co. and E. T. Barwick Mills introduced carpets of 501 nylon last January.

Styles in loop- and cut-pile constructions are expected to be available to retailers this fall.

Fabric Reduces Fire Hazards

Herculite Protective Fabrics' new flameproof vinyl-coated nylon tarpaulin fabric, Herculite 20, is being used by American Electric Power System for coverings on its work sites of two new power units. They have proved successful in reducing fire dangers.

The trapaulins served as protection against inclement weather conditions. In cold temperatures, the fabrics did not stiffen or crack and remained easy to handle.

New Carpet-Leasing Plan

Archibald Holmes & Son is now making its carpets available to businesses, institutions, and qualified individuals on a rental basis, through arrangements set up with the American Industrial Leasing Co.

All standard Holmes qualities, all contract patterns (custom-colored), and custom-designed contract carpet are available to the lessee.

New All-Dacron Fire Hose

A double-jacketed, 600-lb.-test fire hose of 100% Dacron is being marketed by Fyr-Fyter Co. It is called the Ambassador.

The two jackets of Dacron are permanently rubber bonded together by a special process. They can't slip or rub against each other to cause concealed wear and shorten the life of the hose.

The Ambassador hose resists mildew, abrasion, water, and chemicals. Its service life is said to be five times greater than that of a conventional hose. It is available in 50-ft. lengths of 1½- and 2½-in. dia.

Tyrex Used in Premium Tires

Tyrex-cord body is now being used in premium-quality tires by Firestone Tire & Rubber Co.

This new addition makes the premium-quality tire available in a choice of cord bodies to satisfy all types of tire requirements.

Double-Bonded Carpet Backing

Patchogue-Plymouth Corp. is producing a bonded double backing for carpet, Patchogue Bac, that is said to have great dimensional stability.

The double-bonded back has an extra latex coating for added tuft-bind and an extra layer of fabric that holds the latex and the tufts in a stationary position. The yarns used in the fabric are highly resistant to mildew, odor, and rot.

Treated Cleaning Cloth

The Non-Woven Fabrics Div. of Chicopee Mills, Inc., has added a fire retardant and a germicide to its Masslinn cleaning cloth for dry-dusting floors.

The flannel-like nonwoven fabric absorbs and retains dust and dirt. It is uniformly impregnated with a special emulsion for maximum pick-up.

Thorp's New Collection

J. H. Thorp & Co., Inc. has added toile designs printed on cotton and linen drapery fabrics to its new fall collection.

The new large-scale floral designs are reminiscent of French-impressionist painting in treatment and color. Other fabrics range from muted tones-on-tones to vivid over-scale plaids.

New additions in upholstery fabrics include a chenille damask, an Acrilan needlepoint, new trapuntos, a lisere, and many damasks, linens, and chintzes.

Some of the new fabrics were coordinated with wallpaper.

Croft's Carpet Used on Ship

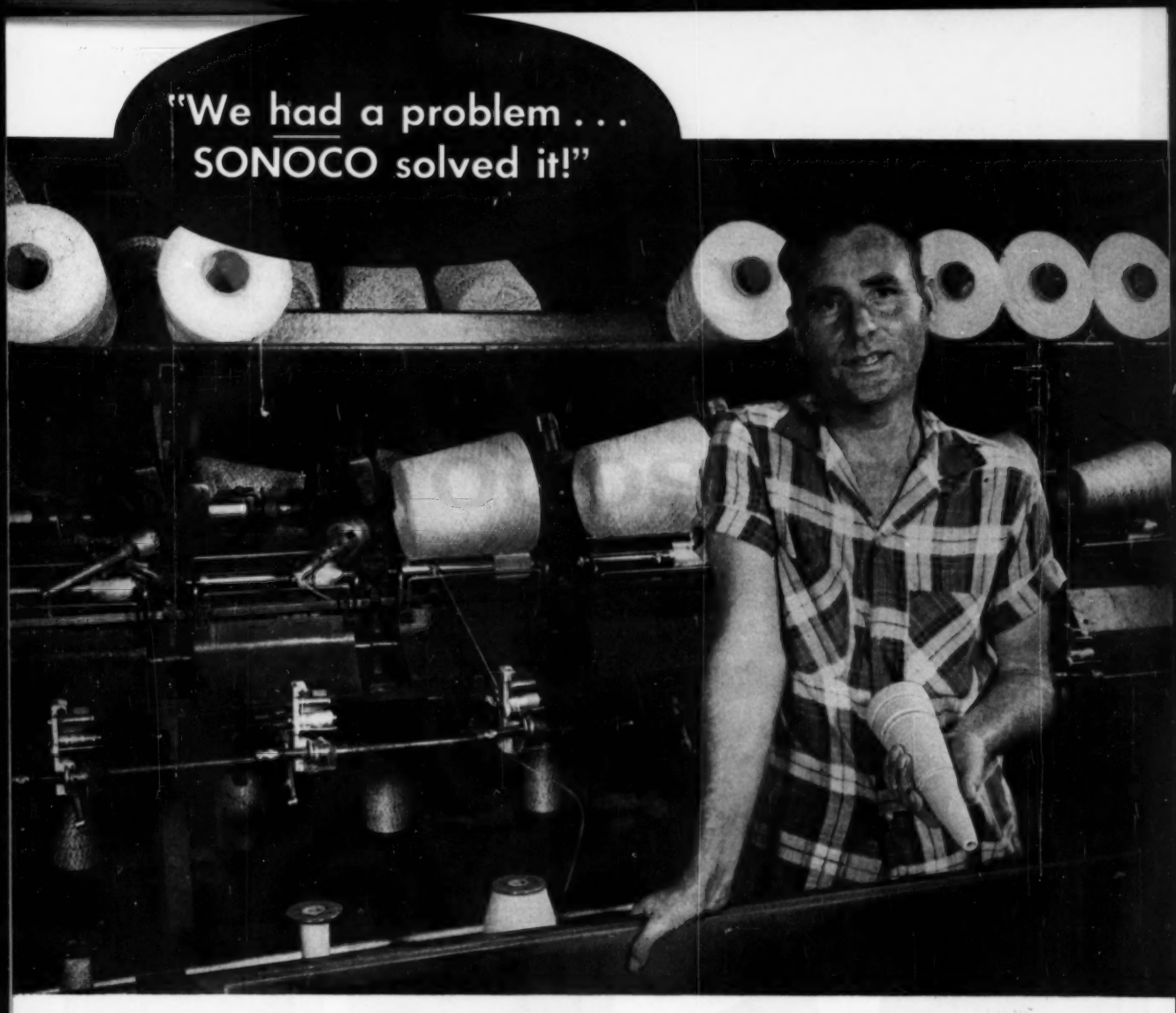
Croft Carpet Mills' Resort carpet of textured Caprolan yarns was installed on the S. S. Aquarama, a Great Lakes luxury liner.

Over 210 sq. yds. were used. The navy-blue carpet was specially dyed. This installation was said to be the largest ever made aboard an inland-water vessel.

Nonwoven Dacron Filter

Troyfelt, a nonwoven felt of Dacron produced by Troy Blanket Mills, is being used as a filter material in a heavy-duty engine intake-air cleaner designed and produced by the Donaldson Co., Inc.

Troyfelt met the military specifications of near 100%-filtering efficiency in zero-visibility dust conditions and in —65°F. to 275°F. temperatures. It had to withstand oil, moisture, rot, and mildew.



THE NEED: A cone surface which would prevent sloughing

Large packages of heavy cotton carpet yarn were being wound on Sonoco Super Cones. In some instances waste was occurring because the yarn sloughed off. Investigation showed that a different type cone surface was needed.

Drawing on past experience with similar problems, Sonoco quickly found the answer by developing a cone with heavy grooves placed at the critical points on the cone taper.

Problem solved . . . Sonoco-style! Matching the correct cone surface to the yarn is "all in a day's work" at Sonoco.

Only Sonoco, with its completely integrated manufacturing facilities and its research and development departments, is in a position to render this vital service to the textile industry. Let Sonoco's 60 years' experience and leadership help *you*. Consult your Sonoco sales engineer.

sonoco
PAPER PRODUCTS

Our 60th year
1899 - 1959

SONOCO
Products for Textiles

SONOCO PRODUCTS COMPANY

Main Office—Hartsville, S. C. • Mystic, Conn. • Akron, Ind. • Lowell, Mass. • Phillipsburg, N. J. • Longview, Texas • Philadelphia, Pa. • La Puente, Cal. • Fremont, Cal. • Atlanta, Ga. • Granby, Quebec • Brantford, Ontario • Mexico, D. F.

CIRCLE 115 ON READER SERVICE CARD

Production Now Up To 2000 a Month

Meeting the constantly growing demand for UNIFIL* Loom Winders really keeps us on our toes! To date, we've shipped out over 20,000. And almost every month we have had to step up production!

Most mills first learn about the superior performance of UNIFIL Winders through a Leesona® "Profit Factor Analysis." This detailed survey of the particular mill's filling yarn preparation methods shows management where and how UNIFIL Loom Winders can improve both fabric quality and economy of weaving operations. Once installed actual performance is ample reason for reordering!

UNIFIL Loom Winders bring the entire process of filling yarn preparation to the loom . . . provide all the advantages of weaving-from-a-cone. And mills everywhere are applying these advantages to all sizes and types of yarns . . . synthetics as well as cotton. For example: quality of fabrics woven from finer count yarns has been greatly improved . . . fabrics with textured yarn filling can be woven with a uniformity not possible before. What's more, the combined savings made possible by this advanced method can't help but speed up pay-out of the investment.

Let a "Profit Factor Analysis" show you how UNIFIL Loom Winders can improve weaving *and* profits in your mill. Ask your Leesona Sales Engineer in Boston, Philadelphia, Charlotte, Atlanta, or Los Angeles. In Canada: Montreal or Hamilton. Or write Leesona Corporation (new name of Universal Winding Company), P. O. Box 1605, Providence 1, R. I.

A few of many progressive mills that are modernizing with UNIFIL Loom Winders

AMEROTRON CORPORATION
BERKSHIRE HATHAWAY INC.
BURLINGTON INDUSTRIES, INC.
CANNON MILLS CO.
BEMIS BRO. BAG CO.
PONEMAH MILLS
DRAYTON MILLS, INC.
JUDSON MILLS
UNITED MERCHANTS & MFRS., INC.
GLEN RAVEN SILK MILLS, INC.
EXPOSITION COTTON MILLS
GREENWOOD MILLS
FRANK IX & SONS, INC.
MARION MFG. COMPANY
WILLIAM SKINNER & SONS
J. P. STEVENS & CO., INC.

LEESONA

Versatility with Any Filling Supply

*UNIFIL is a registered trade-mark of Leesona Corporation

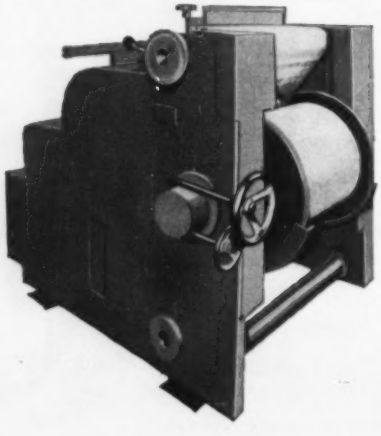
CIRCLE 117 ON READER SERVICE CARD

Good fabrics begin with good warps...

Good warps are made on these Kidde machines

KIDDE CREELS
Custom built to your requirements. Will handle any package made today.

FOR KNITTING:
Deliver from the Kidde creel to one of the Kidde Tricot warpers (there's one for every size spool). Finish the operation on a Kidde Knitter.



KIDDE WARPER
Versatile . . . for all yarns. Smooth operation — easy doffing.

Kidde

CIRCLE 118 ON READER SERVICE CARD

KIDDE SLASHERS
For cotton or silk system slashing . . . constructed to meet your requirements.

Here's the formula for good warps . . . Start with any package . . . put it on a Kidde creel . . . deliver it to a Kidde warper . . . run it thru a Kidde slasher. You'll then have the kind of warp essential to the production of top quality fabrics. Of course, the creels, warpers and slashers may be used separately . . . but, for the finest results, maximum versatility and highest production they're designed to work together.

The key to any warping operation is accurate, uniform tension. To set the proper tension for the yarn being run, and for checking it during operation, Kidde Tensometers are essential. There's a full line of them; one is just right for every tension problem.

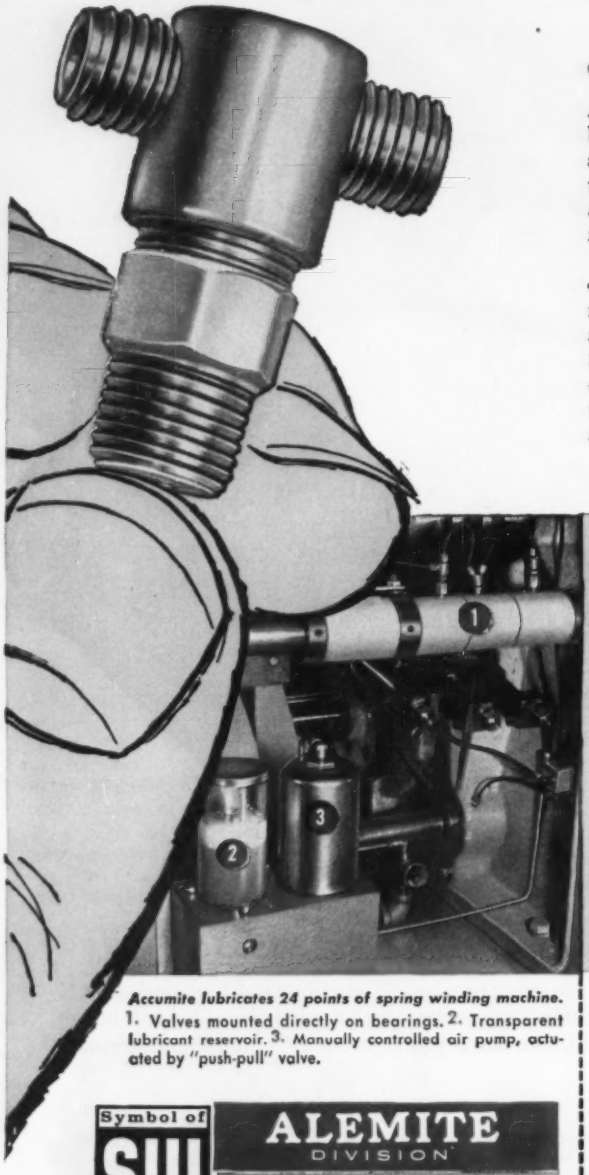
Want complete information on how to get the most out of your warping operation? Write to Kidde for literature describing the finest equipment made.

TEXTILE MACHINERY CORPORATION — BLOOMFIELD, NEW JERSEY

CIRCLE 119 ON READER SERVICE CARD

ACCUMITE® BY ALEMITE

...TO GIVE ANY MACHINE ALL THE ADVANTAGES OF CENTRALIZED LUBRICATION... AT LOW COST!



Accumite lubricates 24 points of spring winding machine. 1. Valves mounted directly on bearings. 2. Transparent lubricant reservoir. 3. Manually controlled air pump, actuated by "push-pull" valve.

Engineered for limited space, outperforms many higher-priced systems!

Alemite—with more than 40 years of centralized lubrication experience—announces an all-new compact system complete with pump, metering valves and controls—especially designed to service many machines and vehicles where centralized lubrication has been impractical until now!

Alemite's new compact Accumite system is especially adaptable to light, precision, multiple-bearing machines that have limited installation space. Its small size and simple installation overcomes cost limitations in most plants. Typical applications are: packaging, canning, labeling and textile machines... and machine tools. It is also suitable for tractor trailers, lift trucks and farm implements.

ACCURATELY METERS THESE SHOTS OF OIL OR GREASE

.003 cu. in. .006 cu. in. .009 cu. in.

ALL THE ADVANTAGES OF "BUILT-IN" MEASURED LUBRICATION—PLUS COMPACT SIZE!

- Meters exact amounts of refinery-clean lubricants to all bearings whenever system is operated.
- Eliminates shutdown time for lubrication.
- Seals lubricant against dirt, grit and water.
- Prevents bearing troubles due to neglect or use of wrong lubricants.
- Services all bearings in one operation.
- Avoids work spoilage and bearing repairs due to over-lubrication.

Mail coupon for full information!

ALEMITE, Dept. X-99
1850 Diversey Parkway, Chicago 14, Ill.

Please send me all the facts about your new "Miniature" Accumite system.

Name_____

Company_____

Address_____

City_____ Zone____ State_____

Symbol of SW Excellence

ALEMITE DIVISION
STEWART-WARNER CORPORATION

1850 Diversey Parkway, Chicago 14, Ill.

EQUIPMENT AND SUPPLY NEWS

Bobbin Counter for Spoolers

A bobbin counter that gives a positive measurement of production on Barber-Colman spoolers has been announced by Dean & Dixon Development Co., Box 752, Charlotte, N. C.

Called Bobbin Calculator, the counter is attached to the spooler head where it travels with the head. The counter goes into action when bobbins strike an actuating arm during transfer from pocket to skewer as the head comes into tying position.

The counter operates only when the head is in action of tying; it is inoperable at all other times.

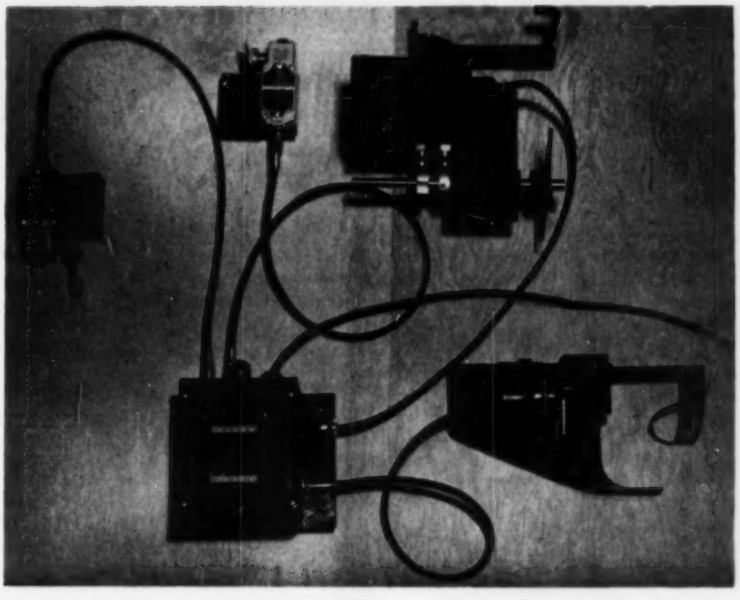
Advantages claimed by the manufacturer:

Production is increased up to 30%; production records are maintained accurately and fairly; and time keeping is simplified.

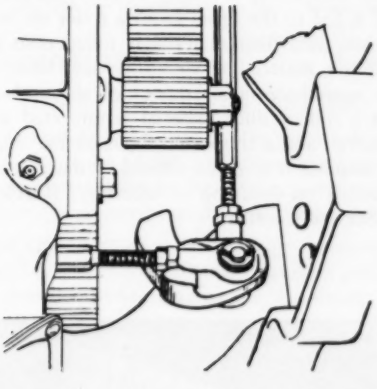
Underweight cheeses and half-bobbins are eliminated because operators are paid according to number of bobbins placed in tying position, regardless of knotter failure.

The system, which is mechanically activated, is almost trouble-free because it is not necessary to set the bobbin counter extremely close as in the case of electronic knot counters.

(Circle T-1 on Reader-Service Card)



Loom Shipper Crank



An improved shipper-connection crank with overthrow stop has been announced by Draper Corp., Hopedale, Mass., for its X-2 and XD looms with No. 2B, 3B, 5B, and 8B transmitters.

The overthrow stop permits easy accurate adjustment of the shipper motion to give the correct amount of overthrow travel for brake and clutch settings. As a result, hair-trigger settings that permit needless loom stops and settings that cause sluggish loom stops are eliminated.

This improved repair part also reduces maintenance costs and wear of component parts. **(Circle T-2 on Reader-Service Card)**

Multipattern Knitting Machine

A spiral multipattern knitting machine, CMP-1, has been announced by H. E. Crawford Co., Inc., Kernersville, N. C. The three-pattern-drum machine combines high-speed operation, ease of handling, and wide versatility to duplicate any desired pattern.

The 4-in. cylinder operates on any standard needle, and pattern changes are handled entirely with the three pattern drums.

The machine produces two-color float and knit patterns, mock-wrap patterns with three selecting stations, all types of Morpul tops, and unlimited angularly disposed rectilinear patterns.

Machine operation is extremely simple, and any mechanic who knows jack-selecting mechanisms can maintain the machine and make patterns. Three sets of selectors activate the 25-step rocking-type pattern jacks in the cylinder to select needles for different colors in the patterns.

Other features are: (1) the arrangement of sinker head and sinker cap to the reverse plate and (2) automatic cutters to cut pattern yarns.

Tension controls are at the front of the machine for easy adjustment. There are five tension racks on the 6-in. drum. The yarn rack holds 12 cones of yarn.

The machine has a completely mechanical stop-and start system that stops instantly at needle breaks, elastic-yarn breaks, or run-outs. Men's socks are produced at 6 to 7 doz. pairs per 8-hr. shift, and boys' socks are knitted faster. **(Circle T-3 on Reader-Service Card)**

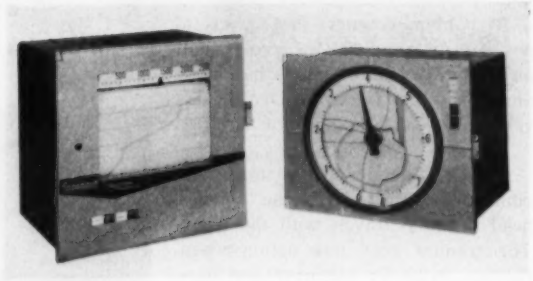
Controllers

Parallel penciled lines drawn on conventional strip or round charts define the process program and actuate controlling mechanisms in a series of control instruments marketed by Research, Inc., 115 N. Buchanan Ave., Hopkins, Minn.

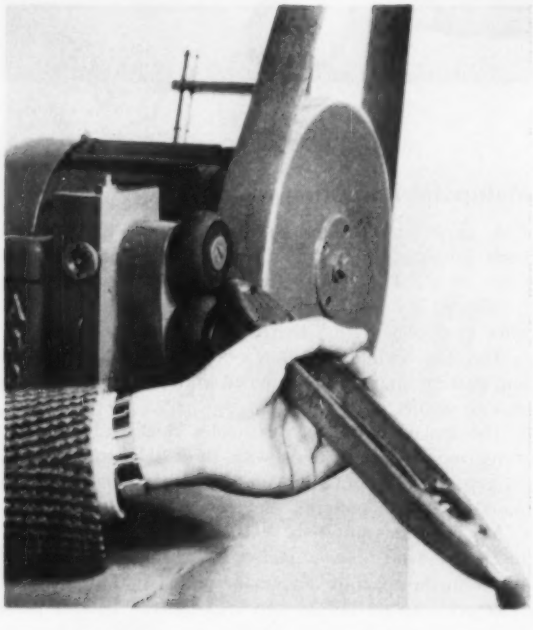
The recording pen travels between the penciled lines, which are electrically connected to the two ends of a center-tapped transformer winding that serves as a voltage source for an electrostatic field between the lines.

The recording pen, which also serves as a capacitive probe, picks up an error signal proportional to any deviation from the null position midway between the two lines. The error signal is used to actuate corrective mechanisms that will return the process to desired conditions.

In operation, a clear vellum paper is placed over the master chart and the recording pen draws a current record of process on the overlay while it follows the process program outlined by the parallel penciled lines drawn on the master chart. **(Circle T-4 on Reader-Service Card)**



Shuttle-Tip Polisher



A bench-mounted machine for grinding and polishing shuttle tips is being manufactured by Lignostone Fabriek, Ter Apel, Holland, and is being sold in the U. S. by Techno Exports Lignostone Dept., P. O. Box 65, Gracie Station, New York 28, N. Y.

The simply designed machine with motor has only these parts: rubber wheel, pulley, contact wheel, emery belt, handle, gear box, and adjusting screw.

A shuttle is held with the handle, and the opposite tip is traversed slowly from right to left between the rubber wheel and contact wheel and the emery belt. **(Circle T-5 on Reader-Service Card)**

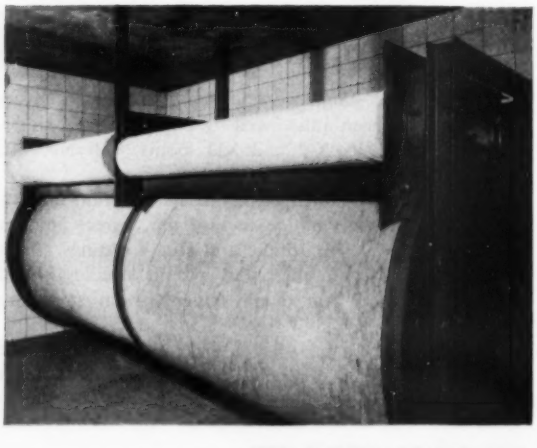
Air Filter

An air filter for spinning rooms that automatically changes the filter material when the sheet becomes loaded with dust has been announced by Sulzer Bros. Ltd., Winterthur, Switzerland.

The machine essentially consists of a large drum made of perforated sheet metal and covered by a sheet of unbleached cellulose and wood-fiber material.

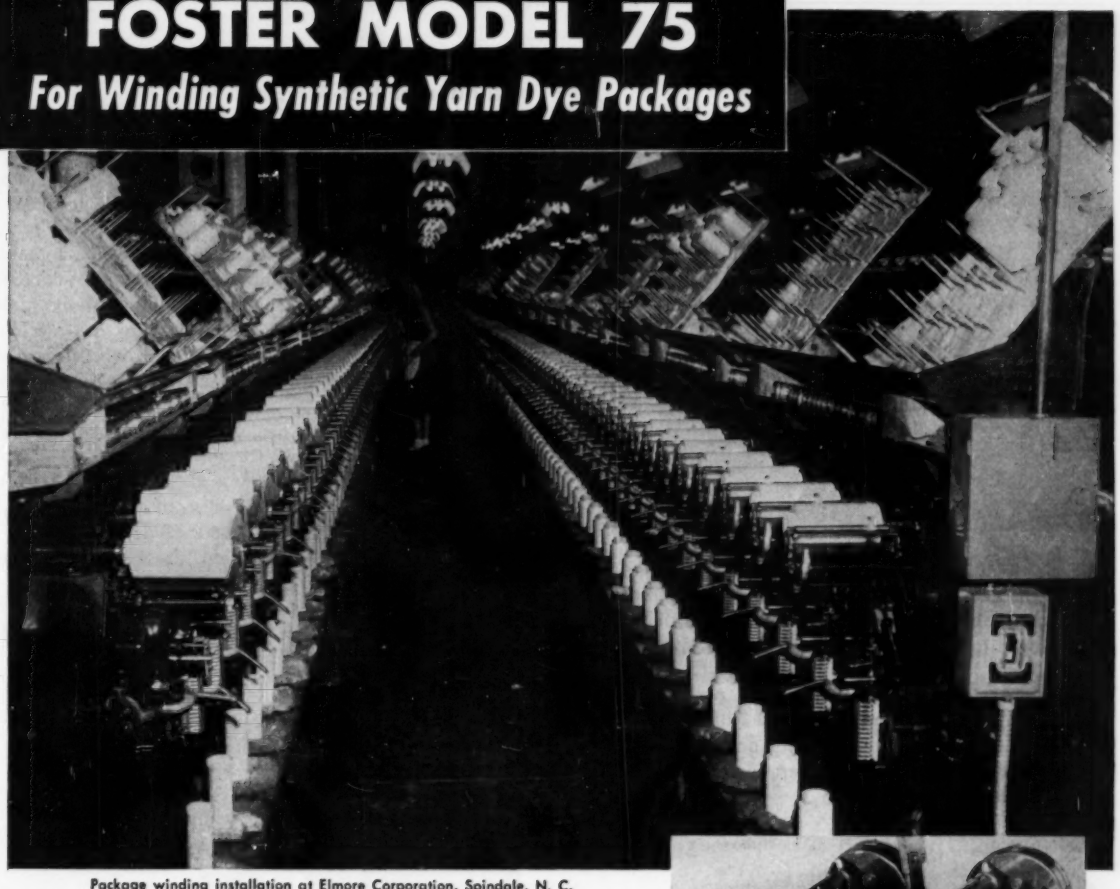
The drum rotates on its own axis as air flows into it radially and leaves it axially at one end. Fresh filter material is fed to the drum from a roller on top of the drum while used filter material is rolled onto a second roller. Filter material is changed when layers of dust produce a predetermined amount of air resistance.

When a roll of filter material is saturated with dust, it is removed and a fresh roll is put on the drum. Ease of dust disposal is a major feature of the machine since no shoveling or sweeping is necessary. **(Circle T-6 on Reader-Service Card)**



FOSTER MODEL 75

For Winding Synthetic Yarn Dye Packages

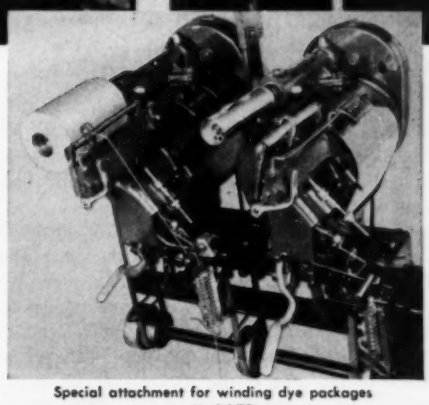


Package winding installation at Elmore Corporation, Spindale, N. C.

2 FEATURES THAT PROMOTE BETTER DYEING

One feature is the special attachment which accurately controls the density of the package, thus permitting extra softness. This extra softness compensates for the tendency of the yarn to pack and swell when wet and permits ready penetration of the dye liquor.

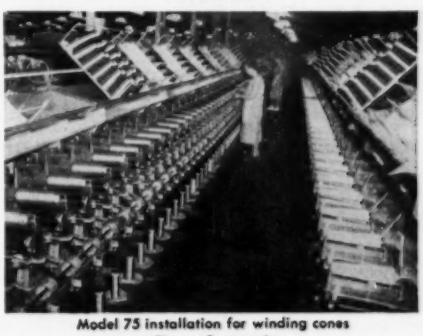
The other feature is the open or honeycomb winding pattern, instead of a diamond pattern. This again promotes free circulation and thorough penetration by the dye liquor.



Special attachment for winding dye packages on Model 75.

OTHER ADVANTAGES

The Foster Model 75 has other basic advantages which make for maximum utility and high production at low cost, such as:—convertibility for cone winding, ball bearings, non-wear spindle drive, yarn oiling attachment (optional), gear gainer attachment, relatively high winding speed (up to 1500 r.p.m.) and 180° belt contact on each spindle.



Model 75 installation for winding cones at Elmore Corporation.

6368

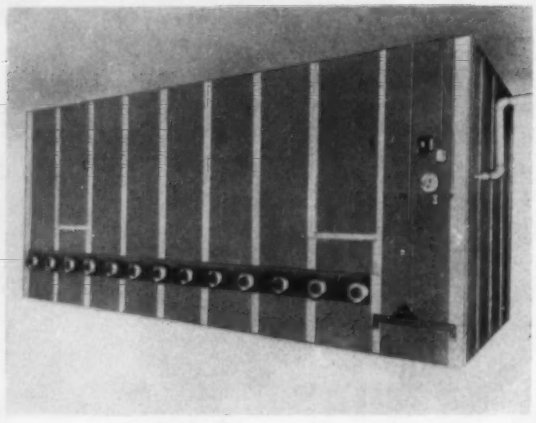
FOSTER MACHINE COMPANY

Westfield, Massachusetts, U.S.A.

Southern Office, Johnston Bldg., Charlotte, N. C. • Canadian Representative—Ross Whitehead and Co., Ltd., 2015 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ontario • European Representative—Muschamp Textile Mach. (Sales) Limited, Elder Works, Wellington Road, Ashton under Lyne, Lancashire, England.

CIRCLE 123 ON READER SERVICE CARD 123

Roller Curing Oven



A gas-fired roller-type curing oven has been marketed by Adams-Zeller Corp., Glenside, Pa. The machine features adjustable air orifices over each roll that direct the temperature-controlled hot air evenly over all the goods.

Production potential is 60 to 65 yds. per min., allowing a 3-min. dwell in a machine that will hold 195 yds. of goods at one time. The curing unit is available in any size to suit a particular operation. **(Circle T-7 on Reader-Service Card)**

Automatic Air-Hose Coupling

An automatic coupling for air hoses has been announced by Lincoln Engineering Co., 4014 Goodfellow Blvd., St. Louis 20, Mo. Called the Flex-O-Matic coupling, the product is offered in four inside-diameter hose sizes of ¼, ⅜, ½, and ¾ in.

No tools are needed to couple or uncouple the device. A straight push connects the plug and locks it firmly in the socket regardless of air pressure. A slight pull on the knurled sleeve disconnects socket and plug and automatically shuts off the air.

A precision-fitted seal prevents leakage, and swivel action of the plug in the socket prevents kinking of the hose. Air passage through the coupling is unrestricted. **(Circle T-8 on Reader-Service Card)**

Cloth Reel

Laminated corrugated cardboard flats bound together with kraft paper and a special adhesive are the basis of cloth reels announced by Acme Cloth Reel Co., 214 W. McBee Ave., Greenville, S. C.

The reels are seamless and have virtually the same thickness at the center as at the ends, which is important in maintaining end-to-end smoothness in wound fabrics. Strength is adequate to support the most tightly wound fabrics. **(Circle T-9 on Reader-Service Card)**

Cylinder or Hot-Air Slasher

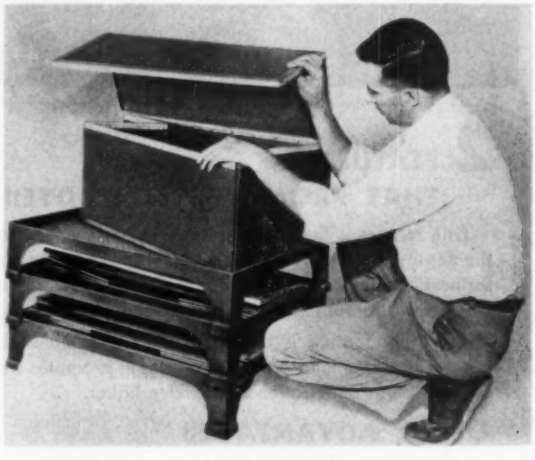
Effective drying at 120 yds. per min. is the outstanding feature of a slasher for spun fibers or filament man-made-fiber yarns being introduced by Joseph Hibbert & Co. Ltd., Dorwen, England. The slasher is made for either multicylinder or hot-air drying.

It has a headstock with mechanical drive; automatic speed control maintains the desired moisture content of warps. Predetermined build-up of the yarn beam is insured without an electrical control gear. A hydraulic variable-speed gear unit facilitates controlled acceleration and deceleration for minimum yarn tension to reduce warp stretch.

The machine has two heads for double beaming, and it's possible to wind two beams simultaneously with different yarn densities. Beams of different barrel diameters can also be wound together if the ratio of the empty to full diameters does not exceed 1 to 5.5.

Other features are: a hydraulic press fitted into the headstock doffs large beams semiautomatically, individual temperature control for cylinders if desired, and Teflon-coated rolls. **(Circle T-10 on Reader-Service Card)**

Collapsible Box



A collapsible box for transporting and storing materials is available from National Vulcanized Fibre Co., 1059 Beech St., Wilmington, Del. As a large-capacity container, it can be handled by a fork lift truck; and it can be collapsed into only 6 ins. of its original height for returning or storage.

A specially designed stacking foot permits fork lifts to handle the boxes singly or stacked from all four sides. Lids are secured to the boxes by hinges and are available in either one-piece or two-piece construction.

Box sides, ends, and bottom are made of fibre-armored plywood, a lightweight material of great structural strength. Box edges and lid are reinforced with metal moldings. **(Circle T-11 on Reader-Service Card)**

using
WHITIN
AXI-FEED*
OPENERS
and AXI-FLO*
CLEANERS
is like
FINDING GOLD IN YOUR OPENING ROOM...

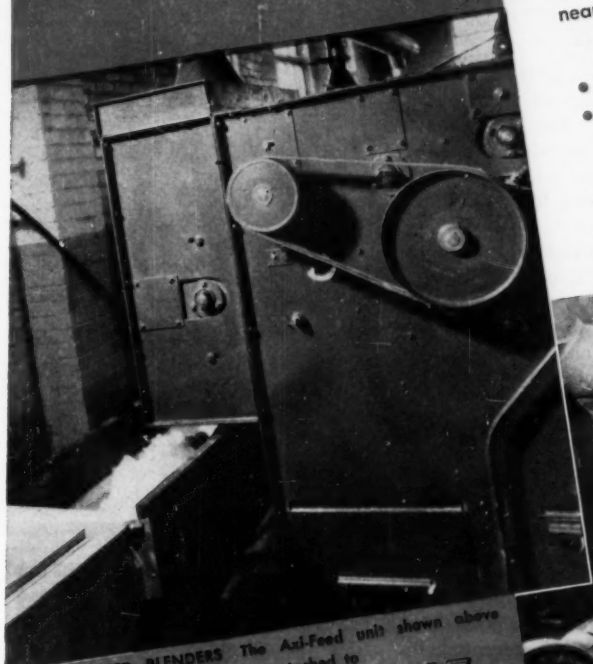
Installed in 277 mills in 25 countries, Whitin Axi-Feed openers and Axi-Flo cleaners are performing so profitably that they are almost as valuable to their user as the discovery of gold in the opening room.

In addition to their cleaning efficiency, mill users report valuable intangible benefits such as: increased card production, cleaner card rooms, improved operations throughout the mill, and cleaner, stronger yarn.

The advantages of Axi-Feed and Axi-Flo are so numerous and their cost so moderate that every mill should enjoy their golden benefits. It will pay you to call your nearest Whitin representative today!

Performance-proved in several hundred mills, they provide:

- **Maximum cleaning**
- **Maximum cotton utilization**
  Many mills have proved that lower grade cotton can produce yarns equal in quality to higher grades formerly run — with savings up to 4¢ or more per pound.
- **Extraction of short fibers only**
- **30-75% less floor space, power, maintenance**
- **Improved blending**



AXI-FEED BLENDERS The Axi-Feed unit shown above mixing feed table can be attached to many standard blending feeders

Photos courtesy Franklin Process Co., Fingerville, S. C.

AXI-FLO

WHITIN
MACHINE WORKS
WHITINSVILLE • MASSACHUSETTS
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SPARTANBURG, S. C.
DEXTER, ME.

CIRCLE 125 ON READER SERVICE CARD

Static-Locating Instrument

An electrostatic locator, Simco Type-E, for detecting electrostatic charges and induction in textile machines and chemical machines has been announced by Simco Co., 920 Walnut St., Lansdale, Pa.

The meter is read by merely pointing its probe toward the charged object. The linear scale of the meter is graduated in −10, 5, and 0 to +5 and 10 to indicate the polarity and relative magnitude of the charge.

Therefore by taking comparative readings under a given set of conditions, the proper location for corrective equipment can be established and its effectiveness periodically checked.

The instrument weighs less than 3 lbs. and is self-powered by a standard flashlight cell that has to be replaced only once a year under normal use. **(Circle T-12 on Reader-Service Card)**

Metal Gate Valves

An improved line of metal gate valves for corrosive service has been announced by Lunkenheimer Co., Beekman St. & Waverly Ave., Cincinnati 14, Ohio. The valves, designated Causul, are available in sizes from ½ to 8 ins. with screwed or flanged ends or bolted bonnet-type ends.

The material for the valves is austenitic iron with about 20% nickel, and quantities of copper chromium and molybdenum. The valves handle sulfuric acid over a wide range of concentrations, alkalis, and many other corrosive fluids.

Outside stem and yoke construction is used in both designs so that stem threads are out of the solution the valve carries. **(Circle T-16 on Reader-Service Card)**

Testing Chamber

Temperature and humidity are controlled automatically in an environmental chamber developed by Electric Hotpack Co., Inc., Cottman & Melrose, Philadelphia 35, Pa.

The chamber can be heated to 100° C. at up to 98% r.h. The heating and humidity systems are self-contained, and an indicating recording controller for both conditions is supplied.

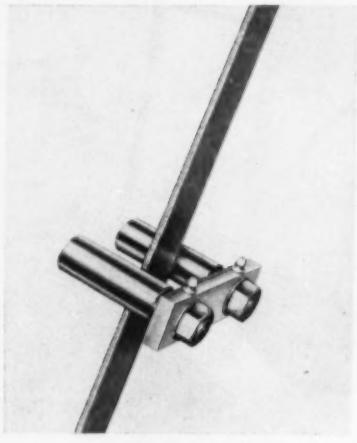
Cabinets are available in rustproof enamel or stainless steel. **(Circle T-13 on Reader-Service Card)**

Speed Reducers

An expanded line of shaft-mounted speed reducers made by Dodge Mfg. Co., Mishawaka, Ind., includes a 25-to-1-ratio double-reduction series in eight sizes. The reducers, Torque-Arm, range in speed from 12 to 400 rpm.

The largest reducer has a reduction ratio of 24.73 to 1 and is rated at 154 hp. at 75 rpm. The 25-to-1 units give 40% lower output speeds with identical motor speeds and V-drive ratios. **(Circle T-14 on Reader-Service Card)**

Roving-Frame Belt Guide

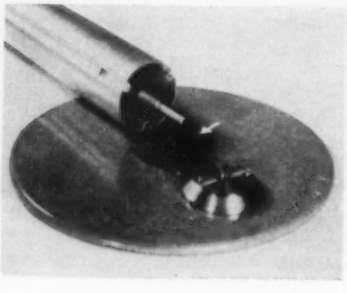


An antifriction guide for belts on picker and roving frames with cone drives is available from SKF Industries, Inc., Front St. and Erie Ave., Philadelphia 32, Pa. The guide is said to reduce power cost and increase belt life through reduced slippage.

The guide is used at high belt speeds and requires lubrication only at 20,000 hrs. of operation. The guide consists of only one roller bearing and one ball bearing fitted in a sleeve so that their outer rings are stationary. The bearings are sealed against lint and dirt. **(Circle T-17 on Reader-Service Card)**

Improved Jack Spool

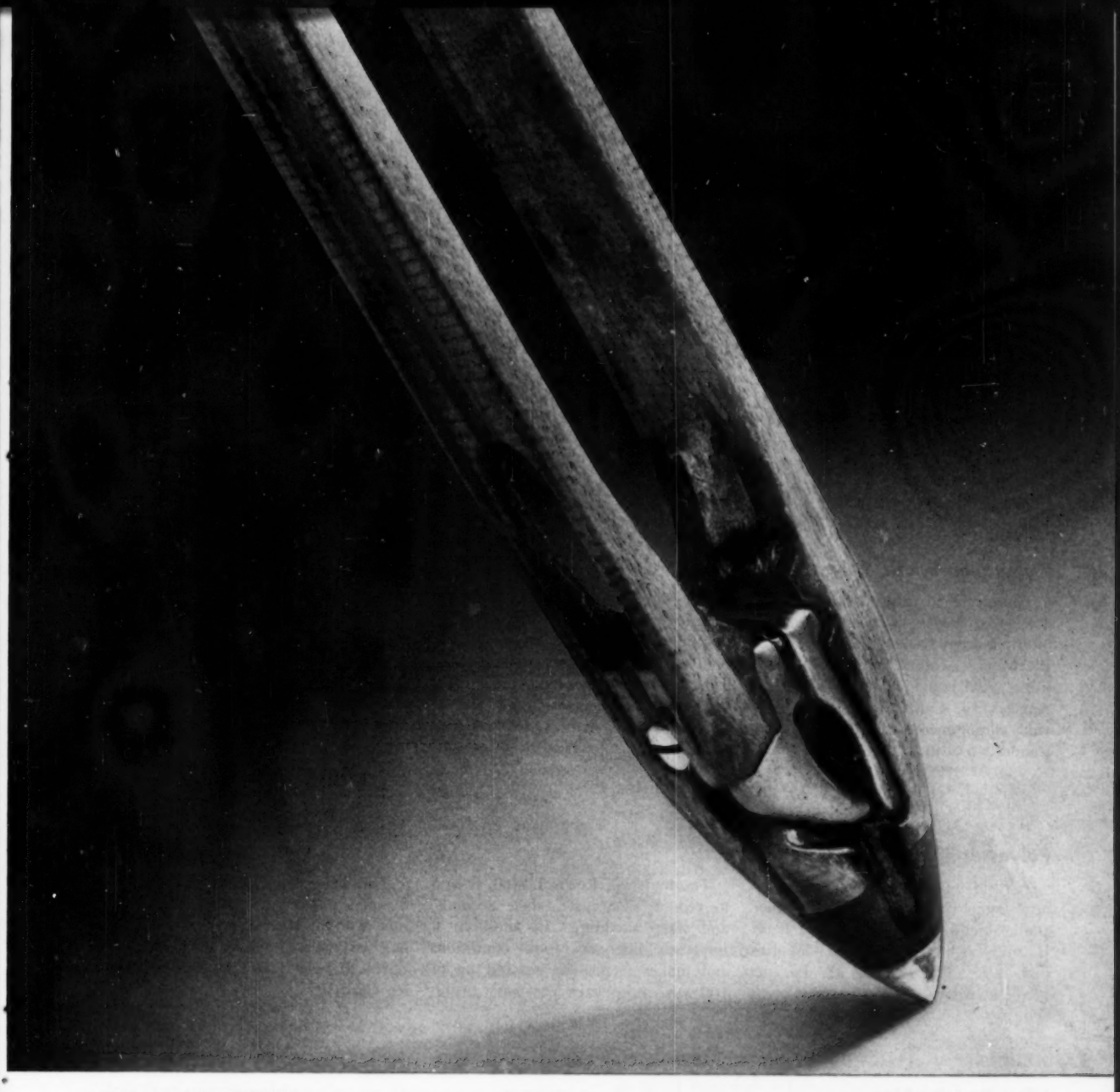
A lightweight, warp-free jack spool for use in carded-wool-yarn processing has been announced by the Lestershire Spool Div., National Vulcanized Fibre Co., 1059 Beech St., Wilmington 99, Del.



Called Lock Eze, the spool features a special head design that incorporates vulcanized-fibre inserts (arrow) that serve as locators to assure concentricity by preventing the heads from turning. The inserts also function as shock absorbers by maintaining the tightness of the spool and providing adequate resilience to absorb sudden bumps or drops.

Heads are readily demountable for quick repair with standard parts that can be stocked in the plant.

Jack spools are available in lengths of 33 to 72 ins. with head diameters ranging from 5 to 12 ins. Special sizes are available for unusual applications. **(Circle T-15 on Reader-Service Card)**



266,000 Miles... a recent performance record achieved by a Draper Tru-Mold Shuttle. This shuttle was in continuous operation for over 20,800 hours and was still in running condition when removed from the loom. While these figures are impressive, they are even more amazing if we consider the number of times the shuttle was boxed and thrown. A quality shuttle coupled with proper care and handling make records of this type possible. For shuttles that last longer ... give better performance... use Draper Tru-Mold Shuttles.

DRAPER CORPORATION

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N. C. • SPARTANBURG, S. C.

CIRCLE 127 ON READER SERVICE CARD

Yarn Guides for Loom Winder

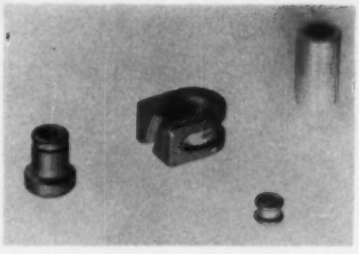
All-ceramic thread guides for the Unifil loom winder have been announced by American Lava Corp., Manufacturers Rd., Chattanooga 5, Tenn. Thread guides for all seven contact positions are made of the wear-resistant AlSiMag ceramic.

The ceramic guides are said to be especially efficient on the loom winders for winding man-made-fiber filament and spun yarns. They are produced in four shapes to fit the various yarn contact points to produce longer guide life.

The guides do not become grooved or nicked from the most abrasive yarn. Guide hardness is eight on the Mohs' scale and is normally furnished with satin polish A.

In addition to adding greater economy in maintenance, the guides provide improved yarn-tension control from a low coefficient of friction.

Guides in the photograph are: on the left is a tension post (four are used), at bottom is a traverse guide, at center is a tension bracket, and at the top is a tension-bracket guide.



The guides are available from Universal Winding Co., Box 1605, Providence 1, R. I. **(Circle T-18 on Reader-Service Card)**

Nonwoven-Fabric Drive

The electrical transmission of variable-speed power is possible with a multiple-drive system made by U. S. Electrical Motors, Inc., Milford, Conn., and 200 E. Slauson Ave., Los Angeles 54, Calif. The system provides simultaneous speed changes of standard a.c. induction motors.

The motors are connected to the power unit by standard three-phase circuits. Speeds are adjusted from one location, and speed changes are instantaneous and simultaneous. No lead motor is necessary.

Uses of the system are for: two machines with proportional speeds, auxiliary coordinated drives, and individual-drive speed adjustment. In one textile mill, a complete nonwoven-fabric-manufacturing line is said to be controlled with the drive, which saturates fibers with binder and dries the finished fabric. **(Circle T-19 on Reader-Service Card)**

Polyester-Fiber Warp Size

A resin binder for sizing 65% Dacron and 35% cotton and other similar-blend warps is available from E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa., to increase weave-room efficiency.

The material, Rezosol 1460, is said to reduce size cost, fabric seconds, and warp shedding. In addition, it improves fiber-separation conditions and makes it possible to add up to 100 yds. more yarn per warp beam.

The sizing material is supplied as a liquid and can be added to the size mix without special precautions. It has excellent adhesion to Dacron fibers. **(Circle T-20 on Reader-Service Card)**

Lifter-Rod Bushing

A bronze bushing that keeps lint from accumulating between spinning-frame lifter rods and bushings and causing the rods to seize has been announced by American Smelting & Refining Co., 120 Broadway, New York 21, N. Y.

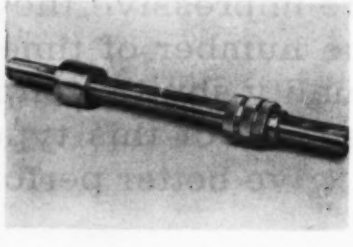
The bushing is cylindrical in shape and has four vertical flutings spaced around the inner circumference. The flutes permit the lint to fall through instead of jamming the bushing.

The part is 2 ins. long with an outside diameter of 1¼ ins. **(Circle T-21 on Reader-Service Card)**

Paper-Core Holder

Paper cores that wind fabrics, foils, and other materials are automatically centered and securely held by a core holder marketed by Hobbs Mfg. Co., 26 Salisbury St., Worcester, Mass.

Cores are easily slipped on the holder and are held without damage during winding. A self-expanding head provides enough traction for the heaviest winding tensions when power is applied to the core holder. **(Circle T-22 on Reader-Service Card)**



CONTINUED ON PAGE 138

Simple • Efficient • Economical

The Scharer Fully Automatic High Speed QUILLER

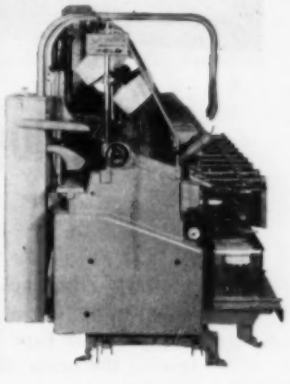
Simple to Operate — Any average operator can learn to operate and maintain the Scharer Quiller in a few hours. The Scharer machine is outstanding for simplicity of design with all working parts easily accessible.

Efficient — The exclusive Scharer nose tensioning device automatically produces even bobbins with more yarn per package. Full bobbins are carefully and accurately laid in boxes, ready for use at the looms. The Scharer Automatic Loading Device handles quills gently and prolongs their life.

Economical Operation — Records show far less than average down-time and consequently more hours of uninterrupted production. One 4 HP motor with variable speed control runs the entire frame at speeds up to 11,000 RPM.

Vacuum Cleaning

Twin blowers, at yarn level, blow dust and fly directly into a vacuum collector system. Far superior to overhead blowers in keeping yarn and winders clean.



The simplicity, efficiency, and economy of the Scharer Fully Automatic High Speed Quiller deserve your close investigation. Let us send you full information.

Ample stocks of replacement parts carried in our Spartanburg Warehouse.

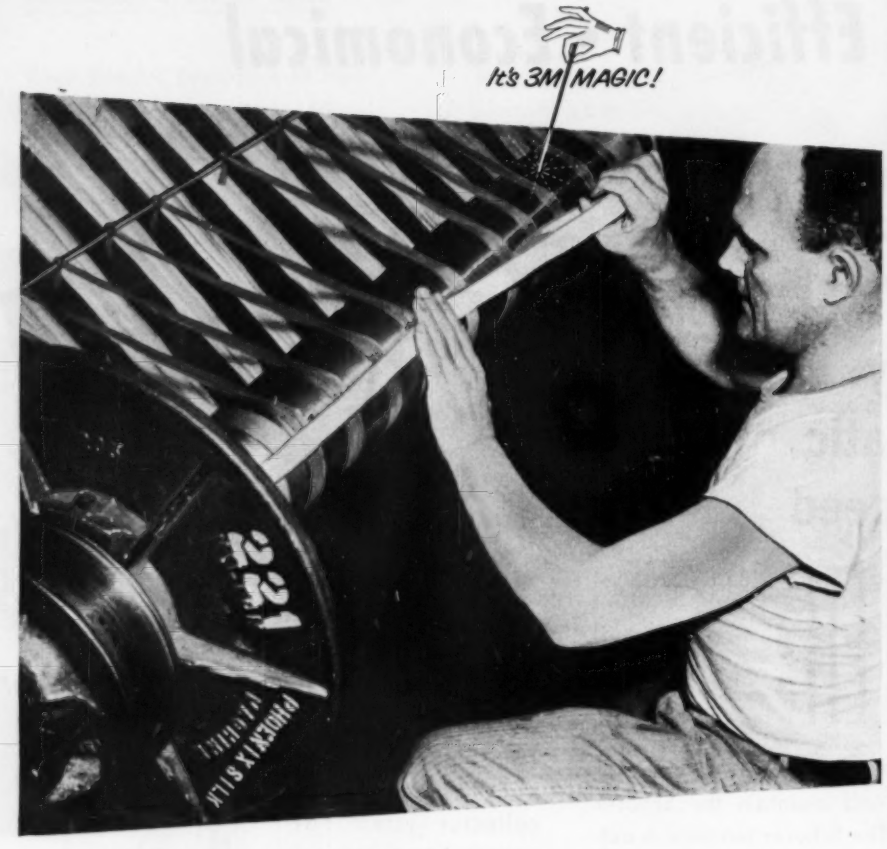
Manufactured By: Scharer Textile Machine Works, Erlenbach/Zurich, Switzerland

"Winding Machines Since 1880"

Sold and Serviced in the United States by:

Yeomans Textile Machinery Company
P. O. Box 1661, Spartanburg, S. C.

Sole Scharer Agents in Canada: Hugh Williams & Co., 27 Wellington St. E., Toronto 1, Ont.



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TAPEnology wraps up loose ends for faster warp starts

Here's the quick, easy way to start a warp on a section or loom beam: simply group the ends along shaft of beam; apply a strip of "SCOTCH" Brand Textile Tape No. 254 over the yarn along the length of the beam; revolve the beam, and the yarn ends are wound on in a smooth sheet!

This is just one example of how specialized "SCOTCH" Brand Tapes can save time, simplify work, and cut operation costs in textile production. You'll find other "SCOTCH" Brand Textile Tapes specially designed to simplify almost every operation: warping, slashing, and leasing, to name a few.

We'd like to show you how new TAPEnology serves the Textile Industry today: Just ask your nearest "SCOTCH" Brand Tape Distributor for complete information, or write: 3M Co., 900 Bush Ave., St. Paul 6, Minn., Dept. IAP-109.

When tape costs so little, why take less than "SCOTCH" Brand?

"SCOTCH" is a registered trademark for the pressure-sensitive adhesive tapes of 3M Co., St. Paul 6, Minn. Export: 99 Park Ave., New York 16. Canada: London, Ontario.

MINNESOTA MINING AND MANUFACTURING COMPANY
...WHERE RESEARCH IS THE KEY TO TOMORROW

3M COMPANY

NEW LITERATURE

TEXTILE MACHINERY & AUXILIARY EQUIPMENT

Special-purpose feeders—For cards are described in bulletin that lists feeders for papermakers' felt, carpet wool, asbestos, hair, jute, rayon, and other fibers. Geo. S. Harwood & Son, Inc. (F-1)

Card clothing—That can be wound on 1½-in. to 60-in.-dia. cylinders is described in folder that tells how teeth can be straightened without breaking and why points hold original shape. Proctor & Schwartz, Inc. (F-2)

Wire-stitching coil holders—With a nontangle, automatic brake for coils weighing up to 50 lbs. are described in bulletin that contains a handy chart for finding the number of stitches produced per pound of wire. Acme Steel Co. (F-3)

Card coilers—For can diameters of 14 to 20 ins. and can heights of 36 and 42 ins. are described in illustrated brochure from Southern States Equipment Corp. (F-4)

Combing process—Called Upsheen that upgrades cotton by removing a minimum percentage of fibers at a production rate of 70 to 80 lbs. per hr. is described in a folder designed especially for carded yarn mills. Saco-Lowell Textile Machinery Div., Saco-Lowell Shops. (F-5)

Vacuum collection system—For collecting lint, fly, and broken ends at spinning frames is described in booklet that tells how the system increases operator efficiency, effects production savings, reduces waste, and provides cleaner working conditions. Bahnson Co. (F-6)

Web-drying machine — High-velocity dryer for textile webs is described in bulletin that contains operating data and drawings and explains in detail how webs can be dried more uniformly at a higher rate of production. J. O. Ross Engineering Div., Midland-Ross Corp. (F-7)

Continuous bleaching range — For open-width piece goods and a bleaching range for tubular-knit goods are described in a booklet that gives specific operating speeds, cost savings, and other advantages. Proctor & Schwartz, Inc. (F-8)

Fabric-crabbing machine — Designed for crabbing fabrics by the piece but also capable of performing wet decating and steam-blowing operations is described in bulletin from Birch Bros., Inc. (F-9)

Long-fiber spinning frames—Ten-page bulletin describes end drafting roll system, top-roll suspension, roll

In many mills Stowe-Woodward's new SEALSKIN cotton slasher roll covers have already proven that they offer more than any cover previously available. For example:

SEALSKIN outlasts other covers by 100% in almost every case.

SEALSKIN has lasted as much as 25% longer between grindings. (And grinding is easy. You can do it in your own shop.) Result: less down time, long trouble free operation, less maintenance costs.

SEALSKIN resists all types of sizes and can be used interchangeably in front or back position.

SEALSKIN has a uniform density, which means consistent size pick-up and closer control of your operation.

SEALSKIN gives you none of the problems previously found in slasher rolls. No more "blistering", "cracking", "crazing", "swelling".

SEALSKIN has a firm velvetlike surface. Gentle on the warp threads, yet with outstanding resistance to wear.

Ask your Stowe-Woodward Sales Engineer for the **SEALSKIN** *Bulletin. It gives you all of the facts. Or, write to:*

STOWE-WOODWARD, INC.
Newton Upper Falls, Mass.
Neenah, Wisconsin
Griffin, Georgia
on the West Coast
HUNTINGTON RUBBER MILLS, INC.
Seattle, Washington
Portland, Oregon

CIRCLE 131 ON READER SERVICE CARD 131

COST CUTTERS!

Small as they are, National-Sterling Ring Travelers can help you make important production savings . . . help cut your spinning and twisting costs to a minimum. There are two good reasons.

First . . . yarn quality. On job after job — in major mills everywhere — National Travelers consistently deliver more pounds of *first class* yarn at higher spindle speeds. Then, too, National Ring Travelers enable you to achieve optimum spinning and twisting efficiency by eliminating frequent and costly "ends down". Every traveler in every box you order is absolutely uniform in weight, dimensions, temper and finish to assure you smooth, trouble-free performance . . . true operating economies.

It will pay you to talk over the cost-cutting features of National-Sterling Ring Travelers with your nearby National Engineer. Whether you're running cotton, wools, synthetics or blends, he'll be happy to help you select the *right* traveler. For prompt service, write, wire or phone National Ring Traveler Company and Sterling Division, 354 Pine Street, Pawtucket, R. I. Southern Office and Warehouse: P. O. Box 293, Gaffney, South Carolina.

NATIONAL Sterling RING TRAVELERS

F. L. CHASE, JR., *Pres. & Treas.* L. E. TAYLOR, *Southern Mgr.*

FOR SPINNING AND TWISTING ALL NATURAL AND SYNTHETIC FIBRES

There's a NATIONAL man nearby!

H. B. ASKEW, P. O. Box 424, Griffin, Ga.
T. H. BALLARD, 112 N. 9th St., Belmont, N. C.
F. S. BEACHAM, P. O. Box 511, Honea Path, S. C.
J. T. GREENLAW, Glen Haven Circle, Saco, Maine

Export Agent. A. M. ROMERO CORP., 350 Fifth Avenue, New York 1, N. Y.

weighting, balloon control, bobbin build, and other features of the Arrow long-draft, long-fiber spinning frame. Roberts Co. (F-10)

CHEMICALS & SUPPLIES

Nylon slashing—Of producer-twist yarn is described in an announcement about the Chemsize method that permits this type of yarn to be slashed and woven without prior winding, uptwisting, and steaming. Chemstrand Corp. (F-11)

Polypropylene—A preliminary technical data bulletin giving physical and chemical properties of the material is available from Avisun Corp. (F-12)

Polyglycols—A 24-p. bulletin gives formula, description, and chemical and physical properties of 40 polyglycols used as intermediates and in end products. Dow Chemical Co. (F-13)

Mylar polyester film—Used as a base for metallic yarns is discussed in a booklet that gives properties and illustrates end uses. Film Dept., E. I. du Pont de Nemours & Co., Inc. (F-14)

Textile-chemical catalog—Prepared in an easy-to-read format gives a concise description and product classification of textile-finishing compounds sold by Onyx Oil & Chemical Co. (F-15)

Back coatings and binders—Three bulletins that describe back coating for upholstery and drapery fabrics, binders for nonwoven fabrics, and penetration of coatings from the standpoint of chemicals needed to produce certain effects are available from B. F. Goodrich Chemical Co. (F-16)

Decorative surfacing—Of textiles with Metalflake, a new metallic sparkle product, is discussed in a folder that contains actual sizes, shapes, and colors of the material in widths of $\frac{1}{8}$ in. and up. Dobeckmun Co., Div. of Dow Chemical Co. (F-17)

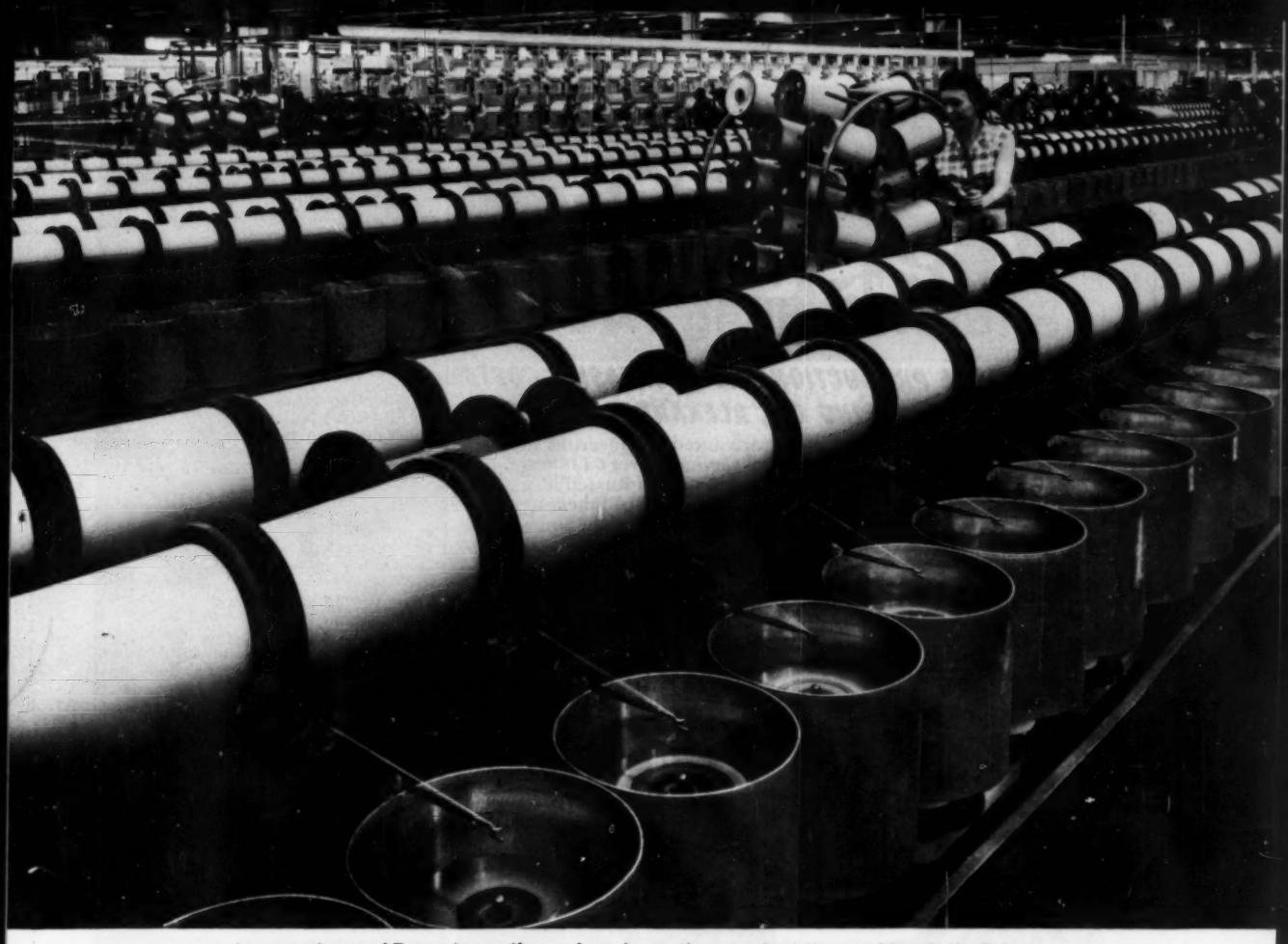
Antistatic finishes for Acrilan—A list of 70 antistatic agents and their methods of application in finishes for Acrilan fabrics is available from Chemstrand Corp. (F-18)

Acid fulling and scouring—Technical data and suggested applications for Sterox 21K, a new surfactant specifically designed for use as an acid fulling and scouring agent for woolen fabrics are available in a booklet from Inorganic Div., Monsanto Chemical Co. (F-19)

Warp size—For spun man-made-fiber yarns is described in technical data sheet that includes detailed information on properties, range of viscosities, and applications from A. E. Staley Mfg. Co. (F-20)

ENGINEERING & MAINTENANCE

Data conversion chart—For engineers



Large packages of Tyrex viscose tire cord revolve on these cord twisting machines in the Painesville, Ohio, plant of Industrial Rayon Corporation. Gulfspin keeps the spindles running smoothly.

Large packages rotate trouble-free with Gulfspin—

GULF MAKES THINGS RUN BETTER!

In the manufacture of its highly successful new Tyrex* viscose tire cord, Industrial Rayon Corporation, Painesville, Ohio, depends on Gulfspin for trouble-free operation of their spindles. Thousands of twister spindles operate 24 hours a day, 365 days a year!

Industrial Rayon engineers report that Gulfspin 41—their spindle lubricant for over 5 years—keeps their busy spindles running clean. Maintenance checks show the spindles to be free from gum, sludge and rust.

May we have the opportunity to demonstrate how Gulfspin can improve *your* spindle lubrication—to help you protect against harmful deposits, minimize problems of heat and vibration, conserve power.

Just call your nearest Gulf office and ask a Gulf Sales Engineer to contact you. Or, mail the coupon for a booklet on Gulfspin.

*Tyrex is a certification mark of Tyrex Inc. for viscose tire yarn and cord.

GULF

GULF OIL CORPORATION
Dept. DM, Gulf Building
Pittsburgh 30, Pa.

Send booklet on Gulfspin.

Name_____

Title_____

Company_____

Address_____

City_____ Zone____ State_____

CIRCLE 133 ON READER SERVICE CARD

NOELTING

Faultless Caster

Materials Handling FACTS

INCREASING TEXTILE PRODUCTION AND DECREASING COSTS AT RUSSELL MANUFACTURING CO., ALEXANDER CITY, ALA.

Advanced engineering methods of servicing over 64,000 spindles at the mills of Russell Mfg. Company have helped them to be recognized as one of the South's most enterprising textile mills. The continuous productive operation of textile machinery depends to a large extent upon keeping the equipment supplied with work materials. Keeping work material on hand and feeding it into the spinning machinery speedily is accomplished at Russell Mills with a combination of integrated trucks. And to assure these trucks a trouble-free, continuous cycle through every phase of mill operation, the Russell executives selected Faultless 504-4TG rigid plate and 1104-4TG Double Ball Bearing Swivel Casters with drawn steel wheels.

1100 Series SwivelCaster shown with Drawn Steel Wheel. Note two full rows of hardened ball bearings in swivel head and in wheel hub.

500 Series with Plaskite Wheel and Thread Guard to keep lint out of bearings, string from winding around axle.

Faultless castered equipment can lead the way to reduced costs and increased production in *your own plant.* Casters for light, medium, heavy and special duties are included in the extensive Faultless line. Faultless wheels for every type floor and load, as well as for special temperature and chemical conditions, are available.

ASK YOUR DISTRIBUTOR

Your nearby Faultless Industrial Distributor maintains a substantial inventory of Faultless Casters for immediate delivery. He and one of the strategically located Faultless Sales Engineers are available to work with you on every handling problem in your plant. Both are listed in the Yellow Pages of your phone book under "Casters," beneath the Faultless heading.

Faultless Caster Corporation

EVANSVILLE 7, IND.

Representatives in Atlanta, Boston, Buffalo, Chicago, Cleveland, Dallas, Detroit, Grand Rapids, Greenville, S. C., High Point, Indianapolis, Los Angeles, New Orleans, New York, Philadelphia, Portland, Seattle, St. Louis, Washington, D. C. Canada: Stratford, Ontario.

FAULTLESS SOLVES THE TOUGH JOBS

NEW LITERATURE Continued

and executives shows at a glance the relationship between inches and centimeters, watts and horsepower, microns and meters, and many other factors. Precision Equipment Co. (F-21)

Corrosionproof flooring—That can be put directly on concrete with little downtime in the form of a fast one-layer monolithic installation is described in bulletin from Atlans Mineral Products Co. (F-22)

Engineering ideas—Based on snap-action switch applications are described and illustrated in "How Others Do it" from Micro Switch Div., Minneapolis-Honeywell Regulator Co. (F-23)

Power switching centers—Housed in a new building-block concept that incorporates standardized metal cubicles containing standardized components are described in 20-p. booklet from I-T-E Circuit Breaker Co. (F-24)

Flexible cushion coupling—That automatically compensates for all combinations of misalignment and end float while it absorbs torsional vibration is described in booklet from Dodge Mfg. Co. (F-25)

Centrifugal pumps—By the hundreds are described in a new jumbo-size "Pic-A-Pump" catalog that contains all kinds of data designed to help you select the pump best suited to your needs. Contents include a selector guide, performance curves, dimensions, range charts, and prices. Allis Chalmers Mfg. Co., Box 512, Milwaukee 1, Wis. **Copies will be sent only on requests made on company letterheads.**

Proper lights for color matching—"Rx for Color-Blind Light Sources" is the title of a brochure that tells what kind of lights to use for matching, shading, and grading colors. A cartoon technique and installation photos are featured. MacBeth Daylighting Corp. (F-26)

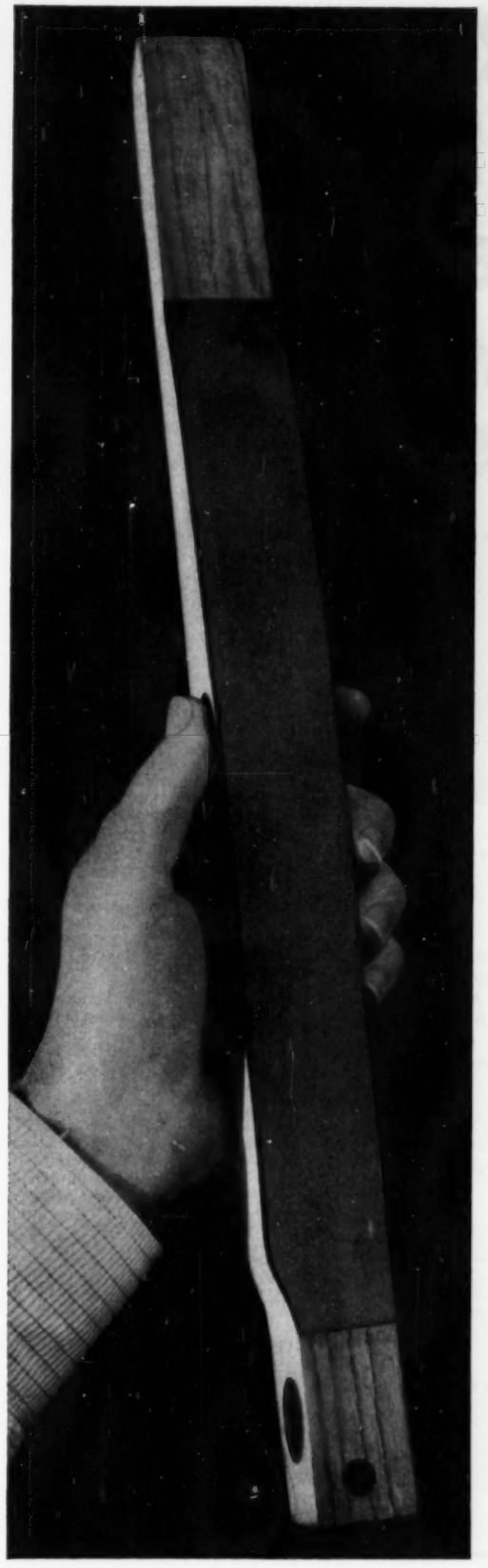
Industrial waste—Of all kinds is discussed in Book 2617, "Water, Sewage, and Industrial Waste Treatment Equipment." The 20-p. book contains illustrations of sanitary engineering equipment, flow diagrams, and engineering data. Link-Belt Co. (F-27)

Electric clutches and brakes—Are described in detail in Electro-Sheave brochure that tells how a new clutch-pulley can be installed on 1- to 25-hp. motors. Included are sections on operation, selection, and specifications. Warner Electric Brake & Clutch Co. (F-28)

Textile-machine lubricator—That automatically services up to 73 bearings on X-2, XD, and XP-2 looms is described in illustrated booklet. The system also can be applied to knitting machines. Bijur Lubricating Corp. (F-29)

GENERAL

Warehouse layout—Should the aisles



New Loom Binder Material from Armstrong

WEARS MUCH LONGER

Accotex CN-889 gives you these advantages:

- Reduces break-in period, requires less resetting.
- Has longer life—especially with heavy plastic shuttles.
- Dimensionally stable—not affected by changes in humidity.
- Costs less than natural materials.
- No waste. Comes in strips cut to size, ready to attach to your loom binders and box fronts.

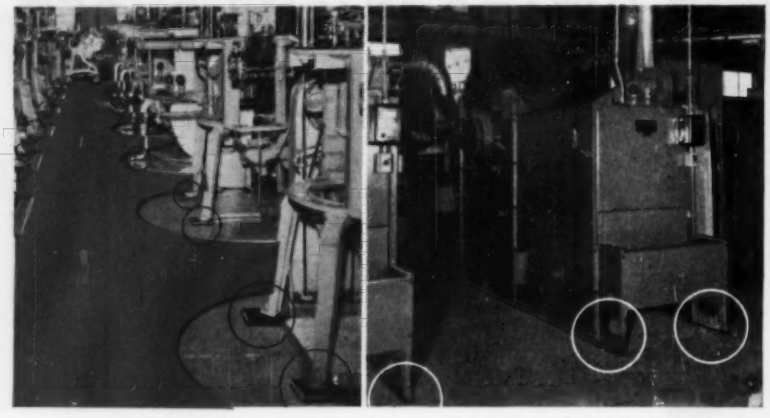
See for yourself on your own looms how CN-889 will improve your operation and lower your costs. Your Armstrong man will arrange for a test installation in your mill. Get in touch with him today. Or write Armstrong Cork Company, Industrial Division, 6910 Dauphin Street, Lancaster, Penna.

Armstrong TEXTILE SUPPLIES

CIRCLE 135 ON READER SERVICE CARD 135

Leading Textile Mills Report...

UNISORB Cuts Costs Reduces Noise and Vibration



Unisorb pads are used under all types of equipment to save installation time, eliminate lagging and bolting and reduce noise and vibration. Preparatory equipment, Circular Knitting Machines and Looms, as shown here, typify Unisorb installations. Unisorb is the only flexible mount available in variety of grades to suit "vibration personality" of each machine.

Unisorb pads save up to 75% in installation time — just apply cement to pad and set in place. **No danger of "walking"** and machines can be moved any time. Every mill can be made quieter and more efficient.

Make Sure All Your Machines Are On Unisorb! Send for Sample and Free Book — or contact your nearest Unisorb Distributor . . .

Industrial Supply Co., Clinton, S. C.
Textile Supply Company, Dallas, Texas;

UNISORB 213 SOUTH ST. BOSTON 11, MASS.
Division of The FELTERS Company

Want more information? Send for set of Unisorb "Facts" Books!

Please send me a Unisorb Sample and Free Book.

Company.....
Name.....
Address.....
City.....Zone.....State.....

FE8-31

NEW LITERATURE Continued

be narrow or wide? The pros and cons of this costly problem are discussed in a brochure from Automatic Transportation Co. **(F-30)**

Overhead cable carriers—That make an index turn, fast dip, 90° turn and have many other features such as a caterpillar drive and precision take-up are described in folder from Cable Carriers, Inc. **(F-31)**

Battery-powered floor cleaners—That have both a scrubbing and vacuum action and can clean up to 21,600 sq. ft. of flooring per operating hour are described in bulletin from Finnell System, Inc. **(F-32)**

Casters and wheels—With capacities up to 15,000 lbs. each are described in 60-p. catalog that also covers nylon-ball casters, spring-mounted casters, pneumatic casters, and many others. Payson, Harris & Reed. **(F-33)**

Fiber study—Entitled "Time Dependence of Mechanical Breakdown in Bundles of Fibers V. Fibers of Class A-2," by B. D. Coleman, is available from Mellon Institute. **(F-34)**

Cloth quality — Can now be established by following the standards set forth in a "Manual of Defects and Imperfections" that defines common defects, establishes a "defect points" schedule, and gives a formula for converting defect points into quality level. Published jointly by National Assn. of Shirt, Pajama, and Sportswear Manufacturers and the Textile Div., American Society for Quality Control. **(F-35)**

Cotton-price chart—For 1959-60 American Upland cotton that shows how to figure purchase, resale, and loan values on a basis of 1-in. Middling Memphis lint is offered by National Bank of Commerce. **(F-36)**

Fiber identification on labels—The Textile Fiber Products Identification Act has been interpreted and analyzed in a booklet that tells what and how information should be put on textile labels. Soabar Co. **(F-37)**

Overhead materials handling—Revised "Engineering and Application Data" covers all types of equipment and gives detailed studies of track design, peening, and stresses. Many photographs are included. Cleveland Tramrail Div., Cleveland Crane & Engineering Co. **(F-38)**

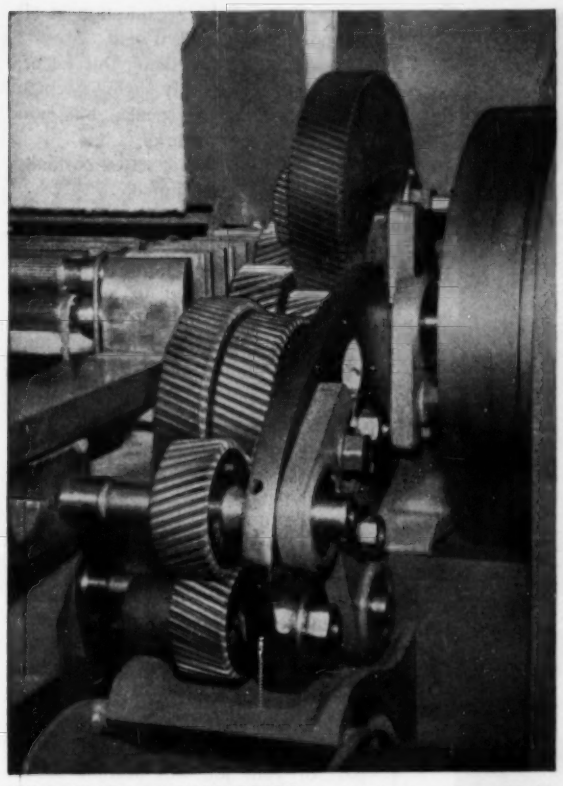
POINTERS FOR SUPERVISORS

CONTINUED FROM PAGE 103

Prepare To Repeat

If you approach each hearing opportunity with the thought in mind, "I want to understand this well enough so that I could repeat it to another person correctly and in de-

Put strength, long life, silence into gears, couplings, loom parts with C D F Celoron® plastic



CELORON-TO-CELORON GEARS in drawing rolls made by Ideal Industries, Inc., Bessemer City, N. C. These are helical-cut gears—the toughest to machine, requiring the toughest material. Celoron is it. Other Celoron parts for this application are shown below, top right.

WORK MIRACLES IN TEXTILE MACHINERY—with this amazing golden plastic material! Celoron gears help eliminate noise, reduce wear on mating metal gears; and even the roughest-used helicals last . . . and last . . . and last.

HIGH MECHANICAL STRENGTH. Typical Celoron strengths: tensile, 6,500 psi; flexural, 10,000 psi; compressive, 25,000 psi; shear, 8,500 psi. Dimensionally stable and readily machined, Celoron fills the bill where costly metal parts fail.

ELECTRICAL INSULATION VALUE. Celoron is a non-conductor with high electrical insulation value. It makes ideal mechanical-electrical parts. Celoron couplings effectively insulate motors from driven machinery.

BETTER SERVICE FOR THE SOUTH. Besides having sales engineers in all principal cities, C-D-F maintains a specialized plant-warehouse stocking Celoron parts and Diamond Fibre receptacles for the Southern textile industries at 834 Hayne St., Spartanburg, S. C. Your Celoron gear blank, coupling, or loom part will reach you fast from this wide-awake distribution center.

Keep in close touch with *your* C-D-F sales engineer—a good man to know!

CONTINENTAL-DIAMOND FIBRE

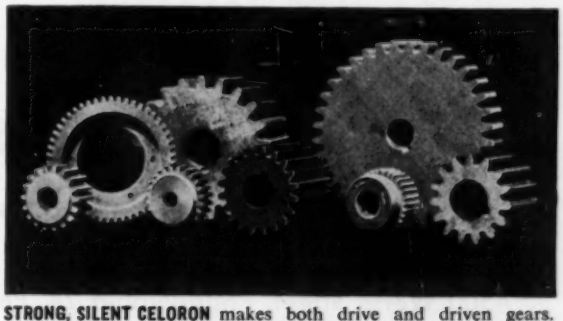
A SUBSIDIARY OF THE Bakelite COMPANY • NEWARK 55, DEL.

In Canada: 46 Hollinger Road, Toronto 16, Ont.

LOW-COST, EASILY-ASSEMBLED C-D-F Celoron flexible coupling transmits power smoothly, efficiently, silently . . . needs no lubrication, works on vertical or horizontal shafts.

PRECISELY MACHINED KEYWAYS help keep these Celoron parts silent and strong in the Ideal drawing rolls illustrated in top photograph. Note wide range of sizes and shapes.

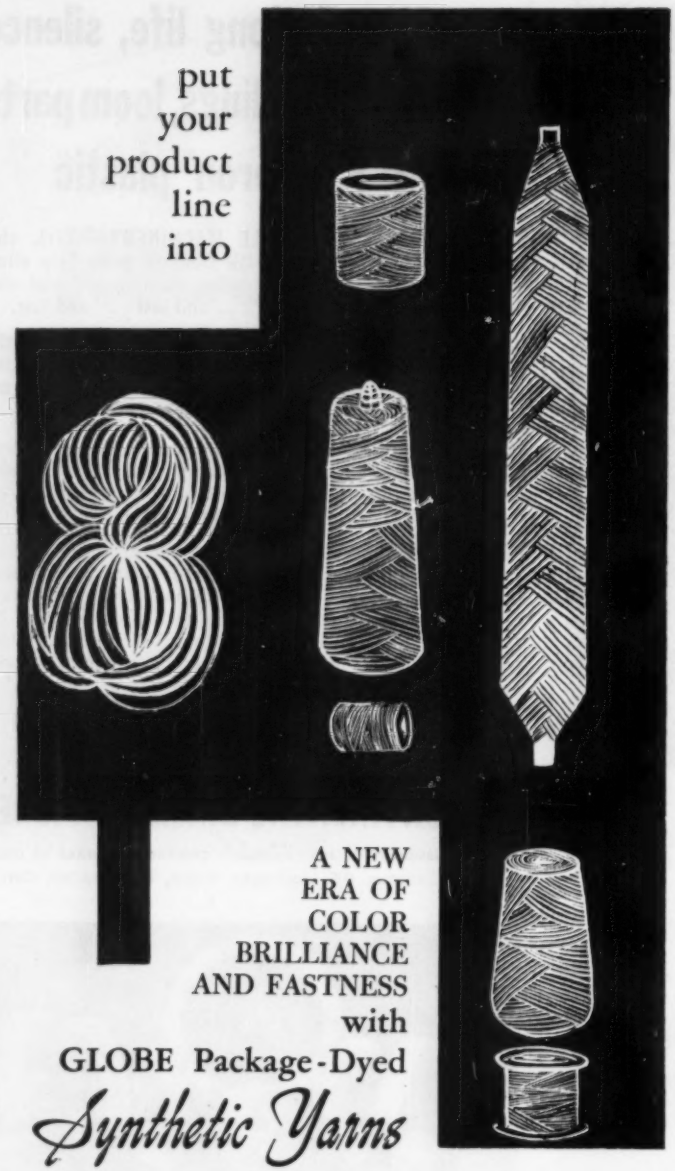
YEARS OF SERVICE, freedom from maintenance, resistance to moisture—that's what these C-D-F parallel plugs, knife guides, binder bushings give the mill operator.



STRONG, SILENT CELORON makes both drive and driven gears. Metal gears don't develop excess play, last longer when they mate with Celoron. Many applications are 100% Celoron-geared.

CIRCLE 137 ON READER SERVICE CARD 137

put your product line into



A NEW ERA OF COLOR BRILLIANCE AND FASTNESS with GLOBE Package-Dyed *Synthetic Yarns*

Your creations deserve the color brilliance and permanence that Globe packaged-dyed yarns can provide.

Globe does package dyeing on tubes, skein and warp dyeing, warp bleaching and sizing.

Yarns we process include cotton, worsted, linen, blend and novelty yarns, and all synthetics — including Creslan®, Orlon®, Arnel® and Zefran®.

Globe DYE WORKS CO. 1865 1959

4500 Worth Street, Philadelphia 24, Pennsylvania

JEfferson 5-3301

tail," there will be no question at all of your hearing what is said.

As an aid in practicing this talent, you might try actually saying back to the speaker, as he speaks, bits and phrases of his remarks:

". . . tomorrow . . . two carloads . . . ready by next Thursday . . ."

The dividends of these procedures can be immeasurable. In the last instances, for example, you are helping yourself be prepared to repeat the ideas and are thereby forcing yourself to hear, both with your ears and with your mind. But you are also telling the speaker that you are getting what he is saying, are giving him your undivided attention, and are thus showing your great respect for him and his thoughts.

Soon you will be known as a "good listener," a classification that is much needed but in very short supply in industry. People will have a warmer feeling for you and will turn to you more often for advice and counsel.

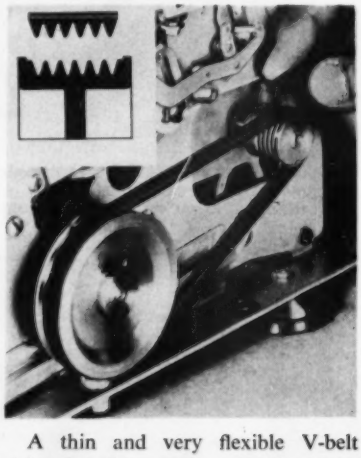
Most beneficial of all, however, is the fact that your communications failures will be reduced substantially. And that, of course, means that every part of your job will become easier and more enjoyable.

Good hearing! (With the mind.)

EQUIPMENT & SUPPLY NEWS

CONTINUED FROM PAGE 128

Thin V-Belt Drive



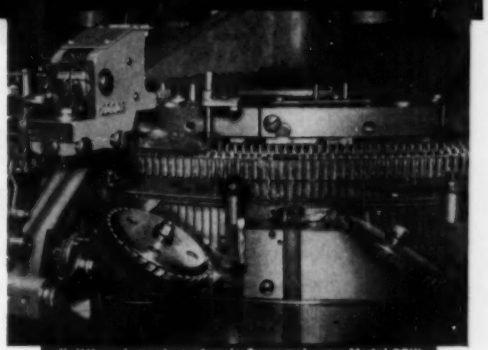
A thin and very flexible V-belt drive has been announced by Raybestos-Manhattan, Inc., Manhattan Rubber Div., Passaic, N. J. The drive, Poly-V J, is an endless rubber belt with parallel V-ribs running length-

SUPREME BRW

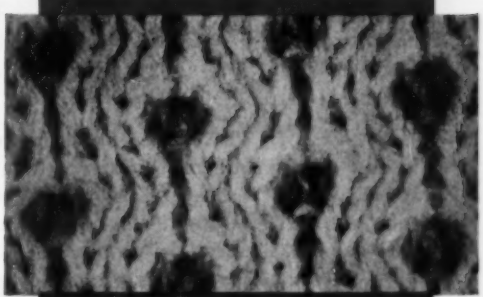
Knits Up To 100 Yards Per Hour!

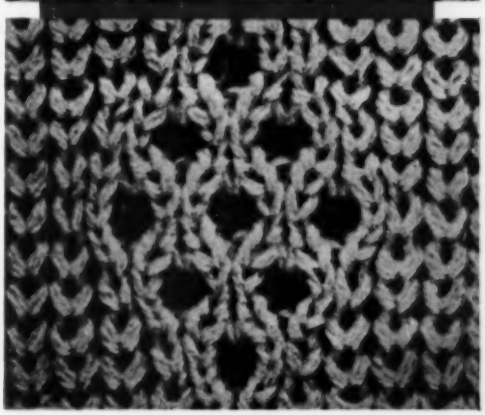
BULKY SWEATER FABRICS

- **PATTERN WHEELS ON ALL FEEDS AND STRIPING BOXES ON ALTERNATE FEEDS GIVE YOU UNPRECEDENTED BULKY KNITTING FLEXIBILITY at 5 to 20 times the output of previous models.**
- Knits 1 x 1 Rib and Half Cardigan bulky sweater and outerwear strips . . . in an infinite variety of Multi-Color Designs, Self-Patterns, Solids, Automatic Variable Stripes, Textures and Combinations . . . maximum production rate of 1 strip per minute — 100 yards per hour.
- Standard 30" diameter machine has from 3 to 7 cut cylinders and dials — 16 feeds with 4 color striping boxes on alternate feeds — (Each of the 8 boxes is individually and automatically controlled for maximum selection without production loss) — Pattern wheels on all 16 cylinder feeds — Automatic tuck controls on all 16 cylinder and dial feeds permit automatic switch from half cardigan to 1 x 1 cuff stitch.
- Produces body and sleeve strips with attached trims and ***easy, clean-selvage draw thread separations.*** Unique method eliminates welt, resulting in yarn savings and cloth more suitable for brushing.
- Independent tight and loose controls give desired structure and elasticity on body as well as cuff or waist.
- Handles up to 3 ends of 2/18 W.C. yarn. Has revolving yarn stand ***with stationary, rubber-covered take-up.***
- **For a look at the BRW in action — contact Supreme today or Morris Kaplan Co., Exclusive Sales Agent To The Sweater Trade, 932 Madison Street, Brooklyn, N. Y.**



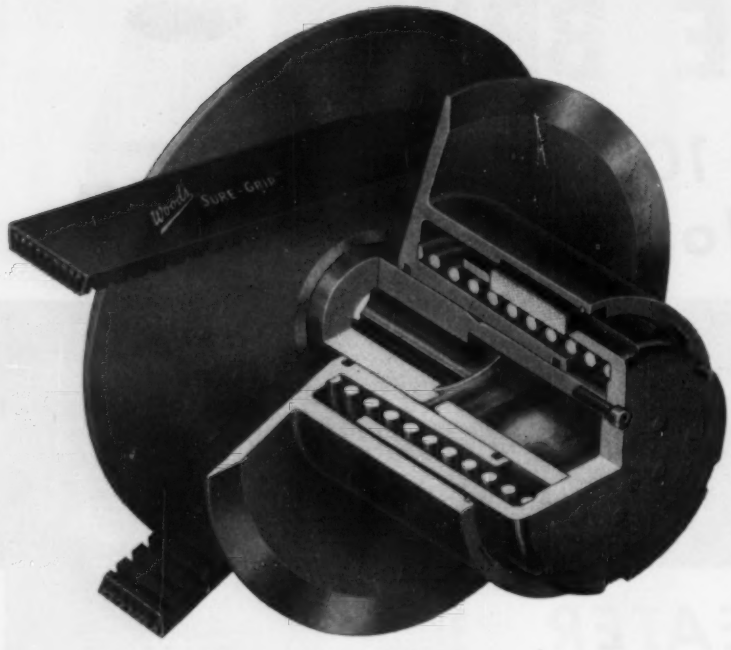
Knitting elements system in Supreme's new Model BRW has easy-to-set pattern wheels and striping boxes





KNITTING MACHINE CO., INC.
98-02 104th STREET, OZONE PARK 16, N. Y.
Southern Representative and Showroom
The Mallack Co., 914 East 4th Street, Charlotte, N. C.

BK-193



NEW WOOD'S VARIABLE SPEED PULLEYS ACTUALLY ELIMINATE FREEZING, STICKING

Wood's new "MS" Motion Control Pulleys incorporate an entirely new concept of variable speed pulley design. Revolutionary features not only permit accurate and infinite speed adjustment, but completely eliminate fretting corrosion, freezing and sticking. There is no downtime . . . no periodic running through the speed range and, under normal operating conditions, the oil reservoir requires checking only twice a year. These startling advantages are made possible by two exclusive features . . .

NEW RESILIENT KEYS—There are no keys to obstruct the flow of oil around the bearing surfaces. Power is transmitted through a series of torsionally resilient rubber keys which are located outside the bearing surfaces between the sleeve cap and flange.

NEW ROTATIONAL PUMPING ACTION—The continuous rotational pumping action of the flange hub on the sleeve completely re-oils the bearing surfaces with each rotation of the pulley.

New "MS" pulleys can be used with any type of straight face companion pulley. They are accurately balanced, operate in any position, fit both old and new NEMA frame motors. Get all of the facts. Write for bulletin 4101.

Woods

T. B. WOOD'S SONS COMPANY
CHAMBERSBURG, PENNSYLVANIA

ATLANTA • CAMBRIDGE • CHICAGO CLEVELAND • DALLAS NEWARK

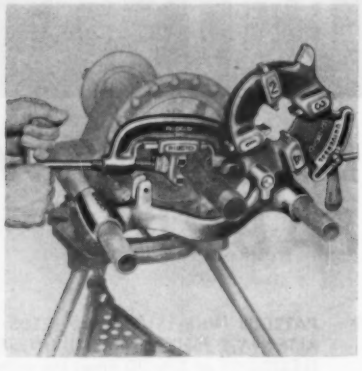
140 CIRCLE 140 ON READER SERVICE CARD

wise around the inside circumference.

It combines the simple one-piece construction of a flat belt with the high-grip positive sheave-groove tracking of multiple V-belts. Man-made fibers running through the pitch line provide strength.

Sheaves mate fully with the belt ribs so that the load is equally distributed over the entire width of the drive. Therefore the belt does not sink into the grooves. **(Circle T-23 on Reader-Service Card)**

Bolt-Threading Machine



Three accessories developed by Ridge Tool Co., Elyria, Ohio, immediately convert the company's Ridgid 300 portable power drive to a fast smooth-operating pipe-and-bolt-threading machine.

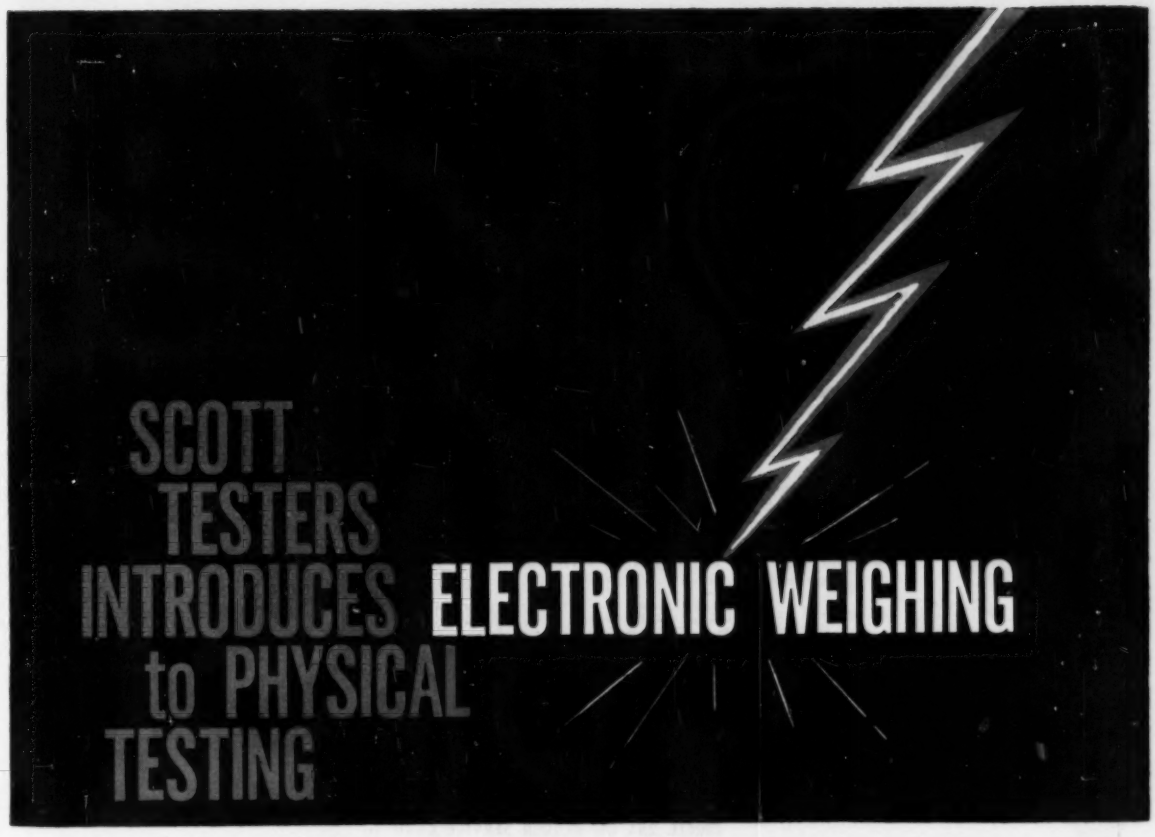
The first accessory is the lightweight aluminum No. 310 carriage that slips on the support arms of the 300 power drive to hold the die head and cutter exactly like a pipe machine. With a No. 19 nipple chuck, close nipples can be threaded.

The No. 360 cutter used with the 310 carriage cuts straight pipe at machine speed.

The 500 Series quick-opening dies thread either pipe or bolts. Both die head and cutter operate independently and swing up and stay out of the way when they aren't being used. **(Circle T-24 on Reader-Service Card)**

Tension Meter

An instrument with a range as high as 50 lbs. that checks tension on moving yarns, sheets, tapes, and flat materials has been announced by Tensi-



It's super-sensitive . . . it's unerringly simple . . . and it's weightless! The radically-new Constant-Rate-of-Extension method introduced by Scott Testers offers the highest order of accuracy and sensitivity yet attainable for mill and laboratory testing. Employing an *electronic weighing* principle, this new Scott system is entirely free from errors of inertia and friction. Most important, it now puts *ultra-precise* testing of your product's physical qualities on a practical and economical basis . . . for evaluation of tensile, tear, hysteresis, seam construction, adhesion and other tests for textiles. Here's why:

PUSH-BUTTON SIMPLICITY Scott Testers has instrumentated its electronic weighing system to feature fool-proof, push-button controls that take all the work and weight-handling out of physical testing. *At a touch*, test capacities can now be changed easily and electronically! Test load ranges, too, can be varied simply by inserting interchangeable force dividers into Scott's unique, compactly-designed load cell.

HIGH MAGNIFICATION OF STRESS-STRAIN CURVE Ratios of magnification of stress-strain curves, as high as 400 to 1, can be dial-controlled through chart travel speeds. Automatic electronic weighing converts linear motion and measures the registration of test curves through the interpreting mechanism of a strip chart recorder.

ADAPTABLE TO *ALL* SCOTT CLAMPS Extremely versatile as well, this new electronic weighing system makes use of *all* Scott clamps and holding fixtures in conformance with ASTM, ISO and Industry Methods. Performance-wise, the advantages of Scott's new Constant-Rate-of-Extension method enable even the non-technical operator to observe and control physical tests with top efficiency, and to make more tests per hour.

Get the Facts-Write Now for "CRE Brochure"

SCOTT TESTERS, INC.
95 Blackstone Street
Providence, Rhode Island

SCOTT TESTERS

THE SURE TEST . . . SCOTT!

CIRCLE 141 ON READER SERVICE CARD

IS
"STOP and GO"
Production
Robbing You of Profits?

"Stop-and-go" production of cloth is costly . . . and unnecessary when the stoppages are due to the fabric guiders. No two fabrics can be handled exactly alike. But you can eliminate a lot of time and expense by installing

MECHO AIR GUIDERS

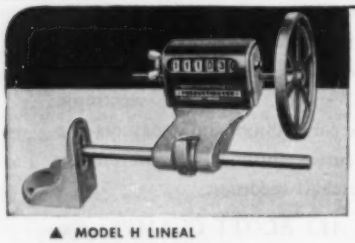
With Mecho on the job, you can quickly adjust for the lightest fabric or #8 duck *while in operation*. Once set, it will maintain constant cloth alignment and guide within 1/8 inch. It can't spatter or turn a double edge . . . and there are no weights or levers to fuss with. No repair problems, either.

Write today for this helpful FREE Mecho Air Guider Catalog.

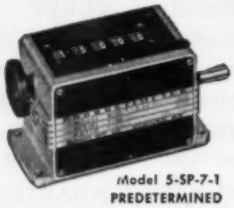
THE Guider SPECIALTY COMPANY

427 W. ROCK AVENUE — NEW HAVEN 15, CONN.
Southern Representatives:
McSpadden, Scantland and Hunter, P. O. Box 3635, Charlotte 3, N. C.

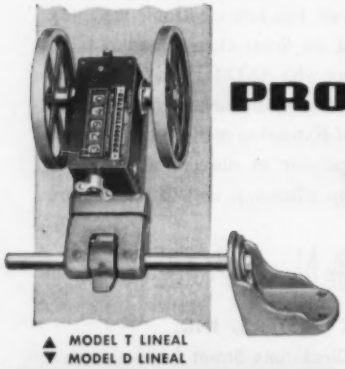
CIRCLE 251 ON READER SERVICE CARD



▲ MODEL H LINEAL



Model 5-SP-7-1
PREDETERMINED



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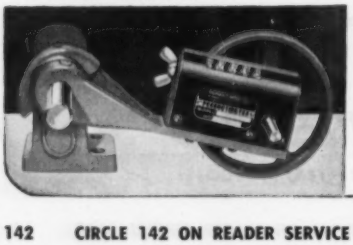
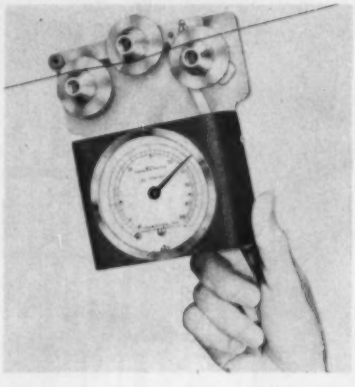


Model 5-H-7-1-R
END DRIVE ROTARY

tron, Inc., Harvard, Mass.

A lever-inserting mechanism permits both outer rolls to be lowered simultaneously so that the test material can be placed between the rollers. The sensing roller in the center is then lifted elastically in proportion to the strain.

This motion, amplified over a shockless spiral movement, is indicated on a dial. Readings can be taken while the yarn or other materials are running. **(Circle T-25 on Reader-Service Card)**



Laboratory Dialyzer

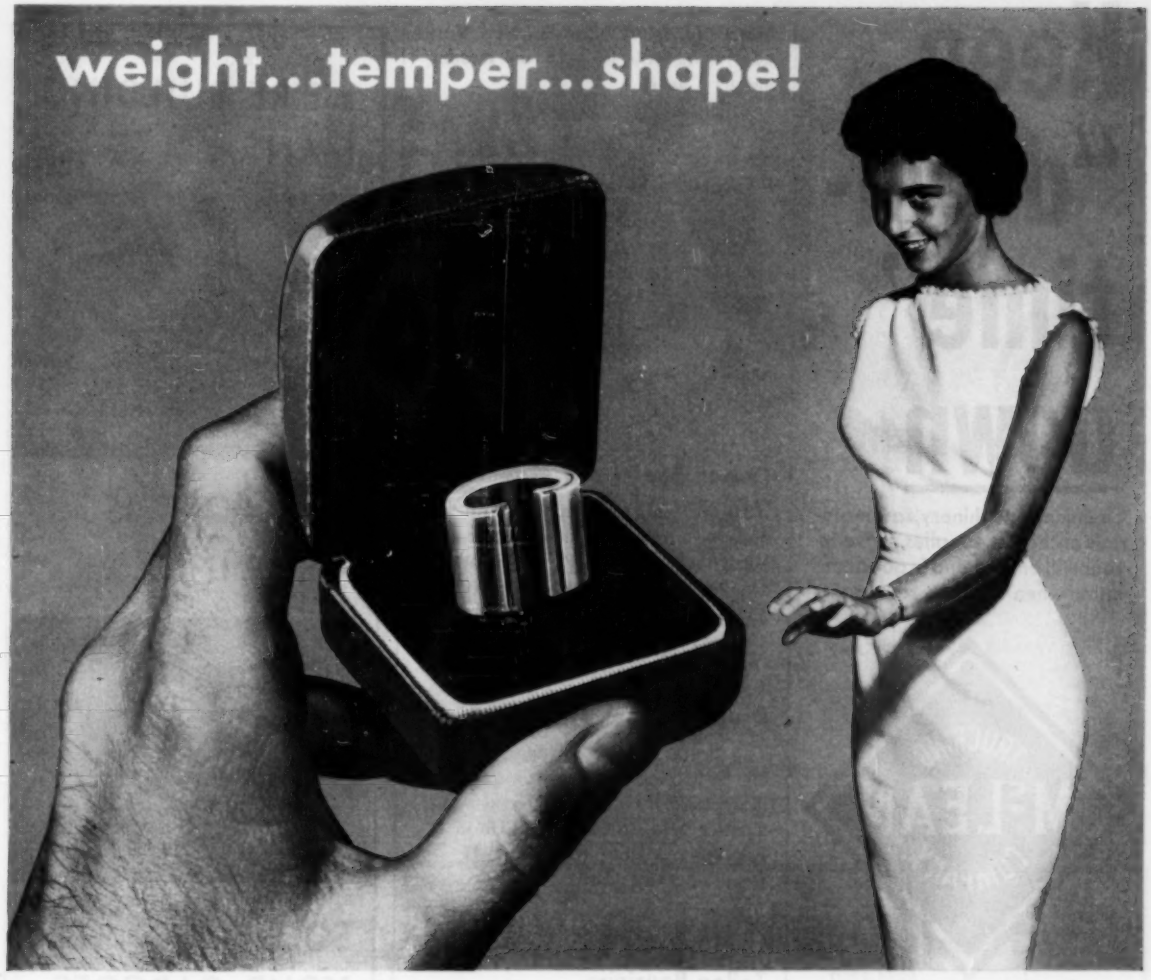
A laboratory-size dialyzer unit that will handle acid, alkaline, or neutral-salt liquors has been announced by Graver Water Conditioning Co., 216 W. 14th St., New York 11, N. Y. **(Circle T-26 on Reader-Service Card)**

Motorless Cleaner

A motorless lightweight cleaner with an actuator that can be quickly converted from one size wand to another without a wrench, requires no lubrication, and is economical to operate is being marketed by Vibro-Pneumatic Cleaner Co., Div. of Patterson Products, P.O. Box 117, Detroit 2, Mich. **(Circle T-27 on Reader-Service Card)**

Pumps

Three sizes of corrosion-resistant centrifugal pumps for a wide range of applications have been added to its line of pumps by Union Carbide International Co., Div. of Union Car-



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McLean also manages and operates Hayes Freight Lines, Inc., serving the Central States

bide Corp., 30 E. 42nd St., New York 17, N. Y. **(Circle T-28 on Reader-Service Card)**

Phototube Holders

A light source, supplied with 6 ft. of cable, that can be used for any application requiring a small spot of light is announced by Machinery Electrification, Inc., 56 Hudson St., Northboro, Mass. **(Circle T-29 on Reader-Service Card)**

Carton Sealer

Cartons can be sealed within seconds with an air-operated stapler marketed as Model T-P by Container Stapling Corp., Herrin, Ill. **(Circle T-30 on Reader-Service Card)**

Drum Warmer

A drum warmer for applying heating or cooling to steel drums is being marketed by the Platecoil Div., Tranter Mfg., Inc., 735 E. Hazel St., Lansing, Mich. **(Circle T-31 on Reader-Service Card)**

Teflon Bearings

A series of Teflon bearings that operate without lubrication and are engineered for automatic self-alignment has been developed by E. I. du Pont de Nemours & Co., Inc., Wilmington, Del. **(Circle T-32 on Reader-Service Card)**

Tear-Band Applicator

An attachment for a tape dispenser automatically applies a quick-opening tear band to gummed tapes; the unit is offered by General Corrugated Machinery Co., Palisades Park, N. J. **(Circle T-33 on Reader-Service Card)**

Nozzles

A series of flat atomizing nozzles for spraying operations that require a flat atomized spray at controlled and extremely low volume has been an-

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With the **LONG** System maintenance is reduced to a minimum . . . up to 32 moving parts are eliminated with this system. Waste at ends is virtually eliminated.

MORE THAN 85 MILLS have proven the **LONG** System. Longer, heavier laps from either cotton or synthetic are being produced at greater profit. Many mills are producing cotton laps up to 75# with smaller diameter and are handling such laps manually.

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L&H PNEUMATIC LAP PIN PULLER*

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UP GO QUALITY and PROFITS when you equip your process lines with MOUNT HOPE FLOATING ROLL GUIDES.

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SENSING FINGER provides ONE-EDGE "Kiss-Touch" ALIGNMENT CONTROL with no damage to edge or selvage. Also available with jet air sensing element for materials that cannot be touched.

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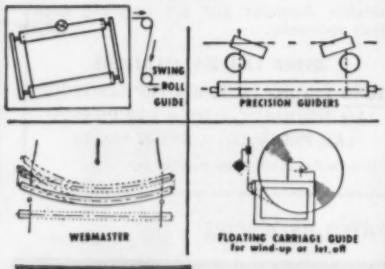
REDUCE "SECONDS" SUBSTANTIALLY — by minimizing marred selvages, displaced warp threads, damaged nap or distorted edges.



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nounced by Spraying Systems Co., 3233 Randolph St., Bellwood, Ill. **(Circle T-34 on Reader-Service Card)**

Salt Dissolver

Glass-reinforced resin is used to build a salt-dissolving unit developed by International Salt Co., Inc., Scranton, Pa. **(Circle T-35 on Reader-Service Card)**

Control Board

A visual control board with an erasable writing surface for scheduling, charting, and planning has been announced by L. D. Blehart Co., 10 Fiske Place, Mount Vernon, N. Y. **(Circle T-36 on Reader-Service Card)**

Lift Truck

A low-lift platform truck that doubles as a piece of mobile fire-fighting equipment has been developed by Yale & Towne Mfg. Co., 11,000 Roosevelt Blvd., Philadelphia 15, Pa. **(Circle T-37 on Reader-Service Card)**

Roof Coating

A glass-fiber roof coating that won't crack, blister, or dry out is announced by Garland Co., 3748 E. 91st St., Cleveland 5, Ohio **(Circle T-38 on Reader-Service Card)**

Tube Fittings

Teflon tube fittings in all standard shapes and sizes can now be secured from Crawford Fitting Co., Cleveland 10, Ohio **(Circle T-39 on Reader-Service Card)**

Lamp

A three-way lamp that balances incandescent and fluorescent light in one fixture is available from Luxo Lamp Corp., Dock St., Port Chester, N. Y. **(Circle T-40 on Reader-Service Card)**

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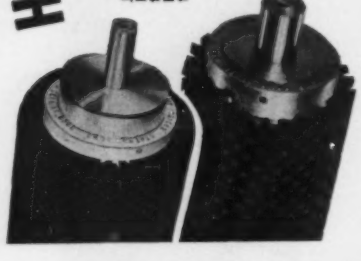

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increase in horsepower ratings has been placed on the market by Goodyear Tire & Rubber Co., Morrill Ave. & 56th St., Lincoln, Neb. **(Circle T-41 on Reader-Service Card)**

Vibration-Absorbing Pad

An antivibration material that is claimed to eliminate 90% of all vibration has been announced by Lowell Industries, Inc., Boston 34, Mass. **(Circle T-42 on Reader-Service Card**

Setscrew

A setscrew that will not shake loose from its mounting when not in use is being manufactured by Set Screw & Mfg. Co., Bartlett, Ill. **(Circle T-43 on Reader-Service Card)**

Filter-Oiler-Regulator

A small combination filter-oiler-regulator that filters air, removes moisture, supplies an oil mist, and regulates air pressure to a desired value is available from Oil-Rite Corp., 2318 Waldo Blvd., Manitowoc, Wis. **(Circle T-44 on Reader-Service Card)**

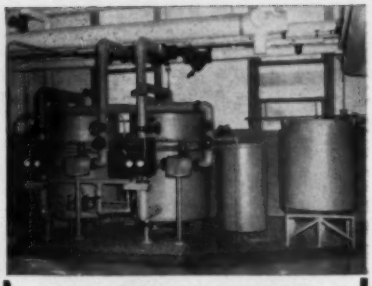
Damper Regulator

A damper regulator that also regulates fans, stokers, oil and gas control valves and may be used to actuate lever-operated balanced valves for pressure regulating service, either reducing or unloading, is available from Atlas Valve Co., 280 South St., Newark, N. J. **(Circle T-45 on Reader-Service Card)**

Pressure-Vacuum Control

Addition of an explosionproof differential pressure control to its line of standard pressure controls has been announced by United Electric Controls Co., 79 School St., Watertown 72, Mass. **(Circle T-46 on Reader-Service Card)**

CONTINUED ON PAGE 150



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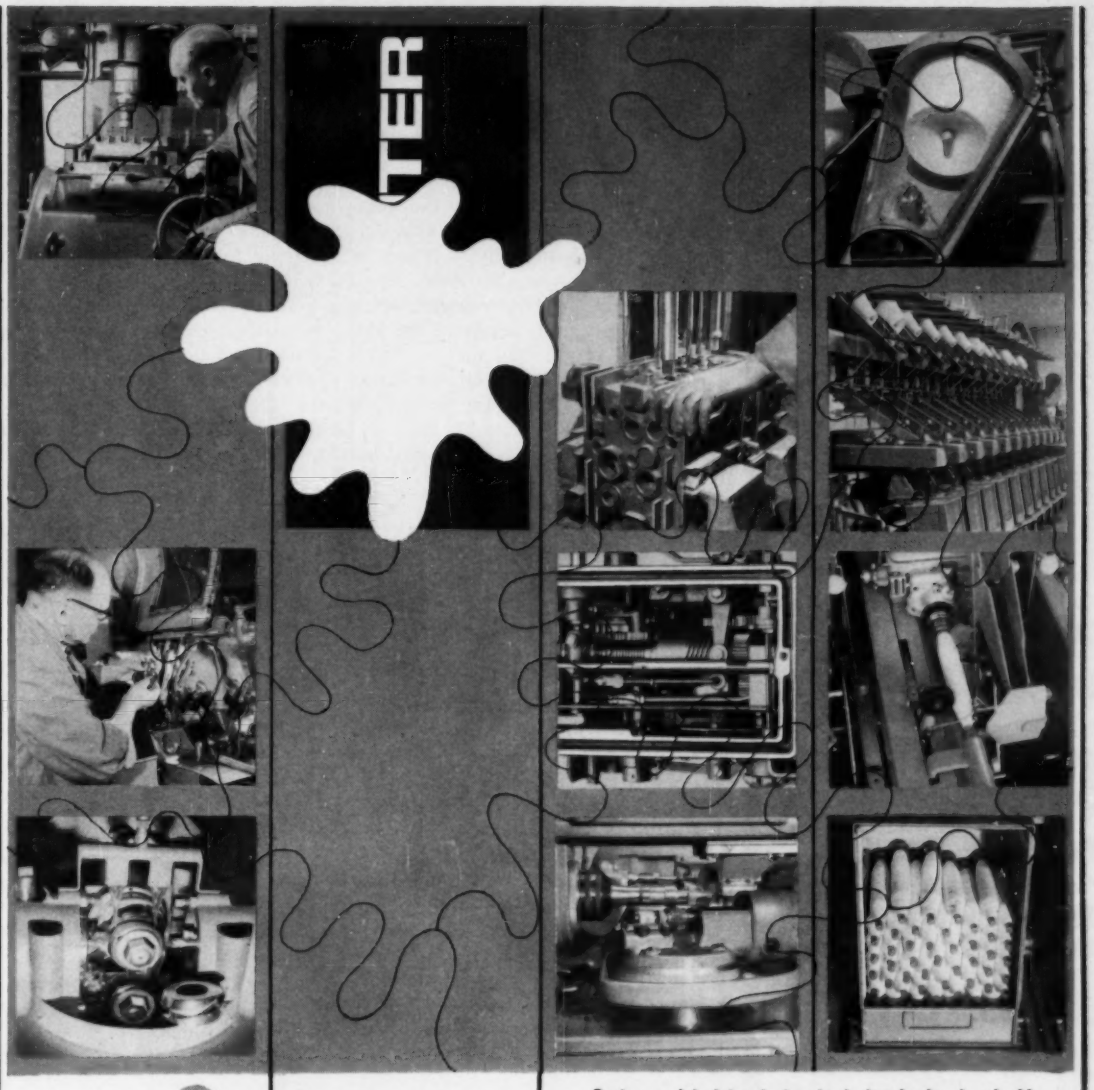

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Only a highly talented technical staff and an efficient, well-equipped plant

could produce this automatic bobbin winder with —

- **automatic feed device for empty bobbins**
- **rotor for tailless bobbins**
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- **bobbin depositing device**

This is one of the most efficient, most versatile machines in the automatic bobbin winder field.

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Automatically increases or decreases yarn tension uniformly on any number of ends.

FOR
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- WINDING – Individual control to desired tension
- CONING – Easily installed on standard coning equipment, to give desired tensions
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The NEW two piece Fabrionics UNA-MAG tension control is an easily installed device for increasing yarn tension from one centrally located position simultaneously for any number of yarn ends. Fabrionics UNA-MAG may be adjusted at a single power source to obtain a desired yarn tension of 80 to 100 grams using the steel alloy disc. Tensions to 40 grams are obtainable with the new Fabrionics 113 wear resistant aluminum oxide ceramic disc.

NOTE: Free literature, catalog and technical reports are offered by Fabrionics Corp. on their quality control instruments and devices.

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Materials-Handling Design Leads to Better Methods

Materials-handling design is separated into two categories: (1) component design, which is the engineering design of an individual part or assembly of parts that make up a system, and (2) system design, which is the engineering design of the system as a coordinated unit.

Several common materials-handling systems and methods are used in the textile industry:

1. Vehicles such as lift trucks and platform trucks
2. Truck tow lines
3. Wheel and roller conveyors
4. Belt conveyors and live-roller conveyors
5. Pallet conveyors
6. Overhead conveyors

New Development Improves Methods

A new development in overhead materials handling that's becoming very important in textile production areas is the automatic dispatch system. Automatic dispatch means that any given load carrier can be dispatched from its starting point to any one of a large or small number of destination points without the necessity of every load carrier passing through every destination point.

This relatively simple and versatile system is composed largely of standard components. Because rerouting is relatively easy when mill or machinery requires it, this system is ideal for automatic dispatch conveying of picker laps, roving cans, ribbon laps, full and empty bobbins, twister packages, cheeses, cones, etc.

With the system, two tracks are used and are mounted as a horizontal pair. The power-driven chain runs in one track and the load carriers in the other. Standard pusher bars on the carriers transmit chain motion to the carriers.

The chain track must eventually turn back to make a conventional closed power loop, but the carrier track may run on and branch off as desired for the various destination sidings.

The automatic dispatch features: automatic selective switching, automatic feed-in, and carrier storage. Other mechanical functions occur in the load-carrier track. This track eventually ties back to the origin point to provide return of load carriers.

Standard components for the system are horizontal and vertical curves, take-up units, drive units, various types of load carriers, escapement and feed-in switches, load-carrier positioning devices, and many others.

Other standard types of components that require lubrication consist of a rectangular self-enclosed track rail, a power-driven chain, and load carriers. Both the chain and carriers have ball-bearing wheels.

One System Eliminates Lubrication

Lubrication is eliminated when necessary by chains with stainless-steel axles and solid nylon wheels. Load carriers are made in similar construction. There are of course certain limitations of the load that may be applied to these elements, but textile loads are usually well within these limits.

The ability of these components to operate without lubrication, and without the attendant oil drip, is of great advantage to a textile mill that manufactures consumer items from its own yarns and fabrics.

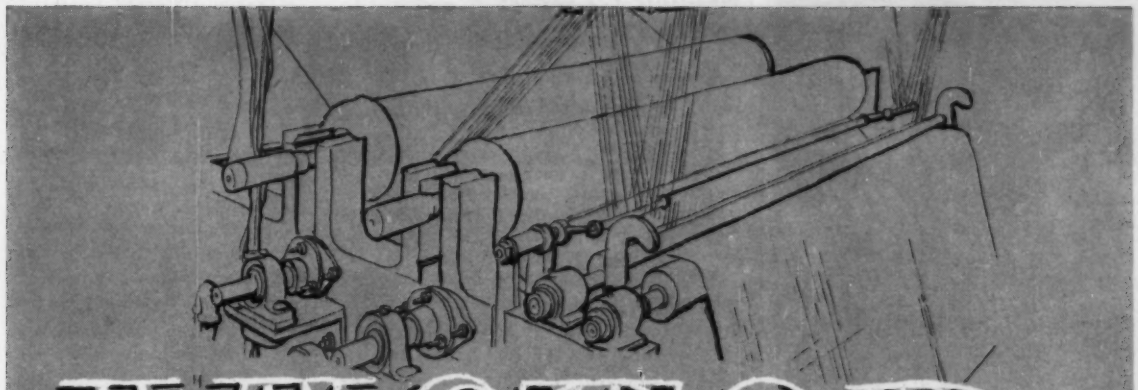
There is constant progressive development in textile materials handling throughout the mill, both in component design and system design. *Based on a talk given by J. C. Whitehurst, James Hunter, Inc., at a conference of the American Society of Mechanical Engineers, Raleigh, N. C.*

EQUIPMENT & SUPPLY NEWS

CONTINUED FROM PAGE 148

Hydraulic Fluid

A water-in-oil emulsion-type hydraulic fluid that provides lubrication with dependable fire protection is offered by Sun Oil Co., 1608 Walnut St., Philadelphia 3, Pa. **(Circle T-47 on Reader-Service Card)**



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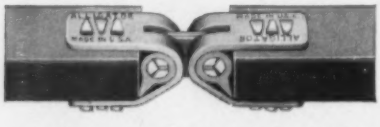

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Provide one strong joint . . . easy to install . . . terrific holding power . . . designed for minimum flexing of V-Belt traveling around sheave.

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CONTINUED FROM PAGE 22

How To Reduce Cross-Twill Effects

Technical Editor:

We weave twills and satins and frequently a cross-twill condition turns up to bother us. Can you tell how to correct this defect? (1478)

This defect is caused by a contrast between the direction of the twist in the yarn and direction of the weave.

You can correct the defect in three ways: (1) increase the number of ends per inch in the warp, (2) put more ends per dent in the reed, or (3) use yarn with twist in the opposite direction. But all of these methods are expensive.

A simple and less costly method is to change the direction of the twill. But never change the direction without the approval of your customer.

On an unfinished fabric of even-side twill of 2x2, 3x3, etc., one side has a more-pronounced cross twill than the other. In the diagram, *A* is an example of a 2x2 twill weave with its reverse counterpart; *B* is a five-shaft satin weave.

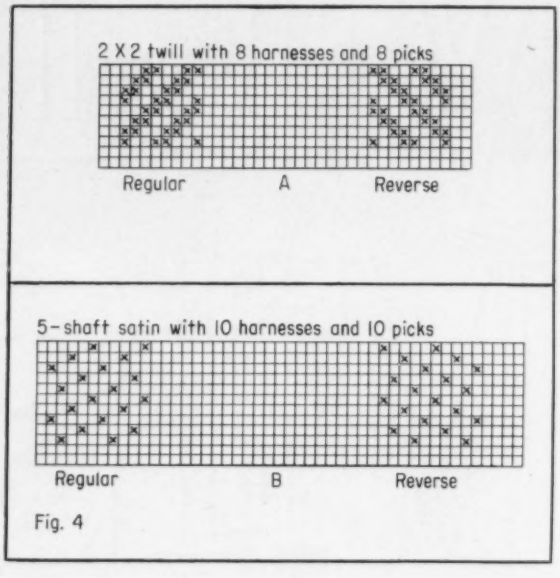


Fig. 4

pH Can Cause Shade Change in Jig-Dyed Fabrics

Technical Editor:

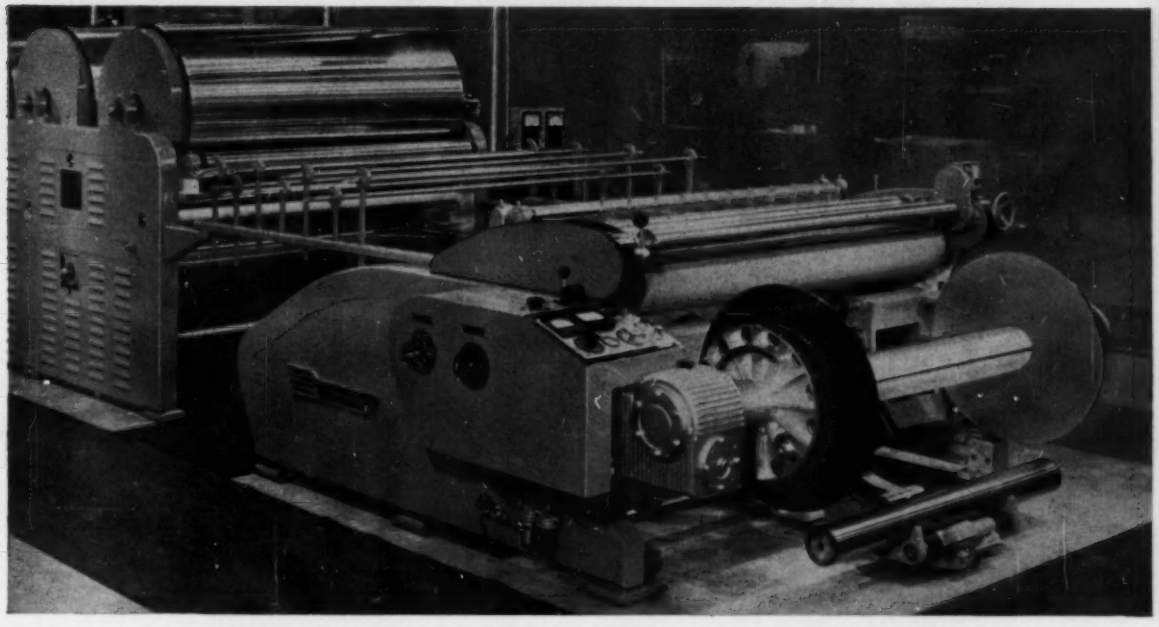
At times we have trouble maintaining a shade match between the time a jig-dyed fabric leaves the dyehouse and when it comes off the finishing tenters. We use mainly direct colors on rayon fabrics; and our finishes are usually based on modified starches, sulfonated tallow, and sulfonated oil. Our water comes from a clear stream and is not treated in any way. Why do our shades vary in cast between dyeing and finishing, particularly the grays and browns? (1485)

Your water supply may be the source of your troubles. Natural water supplies vary greatly in their dissolved-matter content and their pH, according to the time of year. Some direct colors or combinations of direct colors are very susceptible to variation in pH, and the shades they produce will vary with the pH of the final rinse water in the dyeing operation.

Then if the finishing bath changes the final pH of the goods in the opposite direction, a definite shade change can be expected.

We suggest that you add about 1 lb. of sodium acetate to the water from which the goods are shelled up off the jigs. The buffering action thus produced should help overcome any but extreme variations in the pH of your water.

MODERN COCKER



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No slasher, *regardless of price,* is a bargain unless it has all of the most modern features and only the Cocker Slasher is now . . . as it has always been at any time . . . the only completely modern slasher on the market.

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by Ron Kinney

Manager, Textile Sales

During the past 12 years Ron Kinney has had occasion to visit almost every textile mill in the U. S. A. In these columns he answers some vital questions about bolsters and spindle maintenance —answers that could help improve production and cut operating costs.

We have heard of SKF equipped roller bearing spindles for over thirty years. Will the same design, used for conditions many years ago, give similar good service under the high speeds and heavier loads of today?

Although many spindles with the original design of SKF bolster are still giving satisfactory service, many changes have been made in the design of the bolster, over the years, to adapt it to change in conditions. The modern SKF roller bearing bolster is designed specifically to take care of the conditions existing today, and the heavier loads and higher speeds expected in the next several years.

How often does the modern SKF equipped spindle have to be lubricated?

It depends on the size of the spindle. For instance, the HF 2 equipped spindle for cotton spinning is only lubricated after 20,000 hrs. of operation. The larger sizes range from 6,000 hrs. to 15,000 hrs., depending on the loads.

Will we be able to see SKF equipped spindles at the American Textile Machinery Exhibition in Atlantic City next May?

YES. All types and sizes of the SKF bolsters will be available for study and discussion.

Do you have to remove the SKF spindle from the frame in order to clean or lubricate?

NO. You merely remove the blade. The base remains on the rail.

If SKF produces both ball and roller bearings, why do they use roller bearings for spindles?

Due to the many years of experience SKF has had, they have determined that the line contact you have with a roller bearing is vastly superior to the point contact of a ball bearing, in a spindle application.

You keep saying, in your advertisements, "Specify SKF — No Substitutes Accepted." Does this mean, that there are copies of the SKF Roller Bearing Bolster?

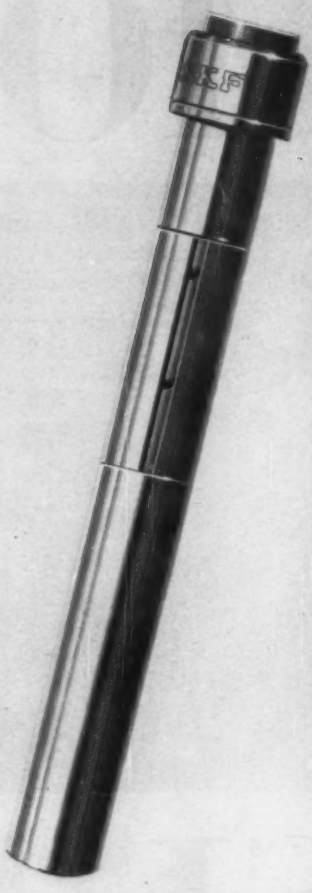
Most well known successful products have been copied and that applies to SKF Bolsters. The "substitute" may look like SKF, but the quality, engineering and up-to-date improvements in the SKF bolster have not been copied.

Who are some of the American spindle manufacturers that will accept orders for spindles equipped with the SKF Roller Bearing Bolster?

The Draper Corporation, Saco-Lowell Shops, Whitin Machine Works, Wicaco Machine Corp., Collins Bros. Machine Co., Superior Bolster Co.

5948

GOT A PROBLEM?
SEND YOUR QUESTION TO
"BOLSTER BRIEFS".
c/o SKF INDUSTRIES, INC.
P. O. Box 6731,
Philadelphia 32, Pennsylvania



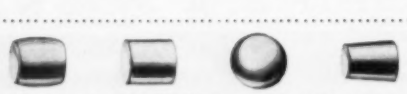
SKF introduces its...
new "HF"
Series Bolster

Planning to buy high-speed, heavy-package spinning frames? Then you'll want every spindle equipped with this new, anti-friction bolster.

It carries the heaviest packages—smoothly, without vibration—at highest speeds. Yet it only needs a few drops of oil every 3 or 4 years.

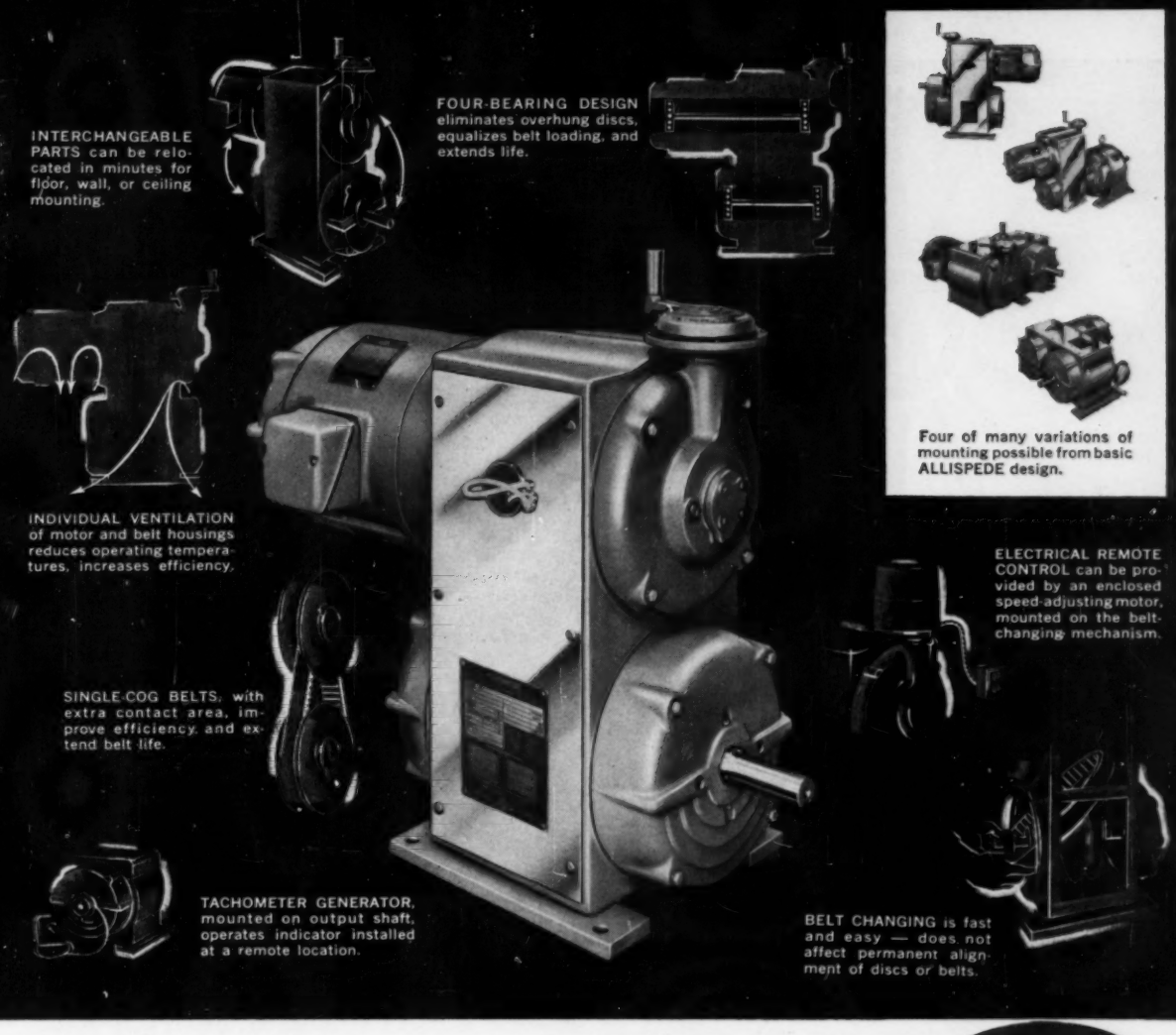
For details, call GArfield 6-6400, or write: SKF Textile Division—Philadelphia, Pa., or Charlotte, N. C.

Specify
"SKF-equipped"
accept no substitutes



Spherical, Cylindrical, Ball, "Thrust" Tapered and REED Miniature Bearings

EVERY TYPE—EVERY USE
SKF
SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.
REG. U. S. PAT. OFF.


INTERCHANGEABLE PARTS can be relocated in minutes for floor, wall, or ceiling mounting.
FOUR-BEARING DESIGN eliminates overhung discs, equalizes belt loading, and extends life.
Four of many variations of mounting possible from basic ALLISPEDE design.
INDIVIDUAL VENTILATION of motor and belt housings reduces operating temperatures, increases efficiency.
ELECTRICAL REMOTE CONTROL can be provided by an enclosed speed-adjusting motor, mounted on the belt-changing mechanism.
SINGLE-COG BELTS, with extra contact area, improve efficiency, and extend belt life.
TACHOMETER GENERATOR, mounted on output shaft, operates indicator installed at a remote location.
BELT CHANGING is fast and easy — does not affect permanent alignment of discs or belts.

Let's look at the features of the ALLISPEDE* Drive

New Louis Allis drive offers accurate control—maximum belt life—long-run economy—low-cost versatility—ease of installation

Here's a drive so easily adaptable to changing physical and operating needs that it obsoletes obsolescence. You can relocate components — add or remove attachments and controls — in the field, in minutes.

Its *all-new* design improves performance and efficiency. Inspection, servicing, and belt-changing are a snap. Furthermore, maintenance is almost nil.

As for versatility — there's an Allispede to meet whatever mechanical drive requirement you have. Sizes up to 30 hp, output speeds from 1 to 10,000 rpm, and speed ranges up to 8:1. Motors can be open, drip-proof, enclosed, or explosion-proof—with ventilated or enclosed belt housings — for foot, P-base, C- or D-flange mounting on your machine.

Allispede is available with parallel shaft, or right-angle, integral speed reducers; special shaft extensions; integral magnetic brakes; electrical or mechanical remote control, and other modifications.

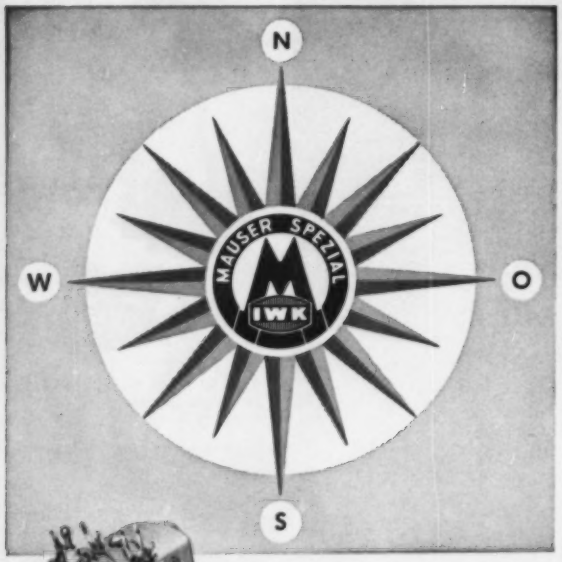
Interested? Contact your nearby Louis Allis District Office or write to The Louis Allis Co., 443 East Stewart Street, Milwaukee 1, Wisconsin, for a copy of Bulletin 3600.

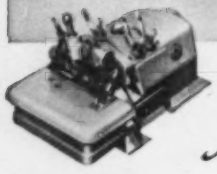
*Allispede is a trademark of The Louis Allis Company.

LOUIS ALLIS

MANUFACTURER OF ELECTRIC MOTORS AND ADJUSTABLE SPEED DRIVES

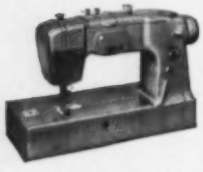
CIRCLE 155 ON READER SERVICE CARD





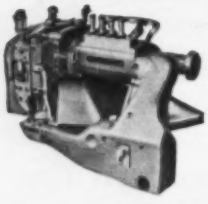
Mauser-Special

Industrial Sewing Machines



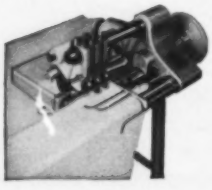
owe their international reputation to the precision of all their component parts, as well as to their most accurate assemblage and extremely precise adjustment.

A complete line of various types are manufactured. They are used for all appropriate purposes by manufacturers of hosiery and knit goods as well as clothing, woven goods, blankets and similar materials.



Our manufacturing program includes:

Overlock Machines
Single Chainstitch Machines
Double Chainstitch Machines
Machines for Sewing Elastics
Border-Attaching Machines
Band-Attaching Machines
Bag Sewing Machines
Cylinder Machines
Feed-off-the-arm Seam-Felling Machines
Flat-Seam Machines
Ribbon Cutting Machines



Leaflets are available on application

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Exclusive Distributors
NATIONAL INDUSTRIAL MACHINERY CORPORATION
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Phone: Chickering 4-7335—6—7 ● Cable Address: Unshoscorp

NEWS ABOUT SUPPLIERS

ALLIED CHEMICAL CORP., GENERAL CHEMICAL DIV., New York, N. Y.—Has appointed G. F. Lincoln manager of the Providence, R. I., sales office replacing J. W. Houston, who has retired. . . . **AMERICAN CYANAMID CO.,** New York, N. Y.—Has named J. C. Hyatt sales representative to handle dyestuffs sales in the state of New York. . . . **AMERICAN ENKA CORP.,** New York, N. Y.—Has appointed H. F. McKee assistant product-sales manager of the rayon-textile sales department. . . . **C. O. BARTLETT & SNOW CO.,** Cleveland, Ohio—Has acquired the entire Wettlaufer line of vibrating screens, packing units, blender mixers, granulators, and centrifuges. . . . **BORG-WARNER CORP., MARBON CHEMICAL DIV.,** Gary, Ind.—Has named J. R. Corbin sales-service manager. J. S. Saviello has been named technical-sales representative for the Eastern-seaboard area. . . . **BOILER ENGINEERING & SUPPLY CO., CONTINENTAL BOILER DIV.,** Phoenixville, Pa.—Has named J. A. Hohenleitner sales manager. . . . **BORDEN CHEMICAL CO.,** New York, N. Y.—Has named M S. Letourneau New York-district sales manager.

ROBERT E. BROUILLARD (left) has been appointed sales manager of pigments for the Dyestuff & Chemical Div., General Aniline & Film Corp., New York, N. Y. H. ALISON WEBB (center) has been named sales manager of dyestuffs for the division. L. P. THIES (right) has been named manager of the Polyester Products Dept. of the Chemical Div., Goodyear Tire & Rubber Co., Akron, Ohio.

CELANESE CORP. OF AMERICA, New York, N. Y.—Has completed a multimillion-dollar expansion at Pampa, Tex., in its acetic-acid plant. . . . **CHARLOTTE TEXTILE ENGRAVERS,** Charlotte, N. C.—has named DeWitt Ginn customer-service representative for the firm's plants in Charlotte and in Greenville, S. C. . . . **CONTAINER CORP. OF AMERICA,** Chicago, Ill.—Has announced that H. E. Miles, vice president, will be responsible for all corrugated shipping-container plants with the exception of West Coast properties. . . . **CORNING GLASS WORKS,** Corning, N. Y.—Has appointed Will Industrial Products Corp., Atlanta, Ga., primary distribution for industrial glassware. . . . **CROWN ZELLERBACH CORP.,** San Francisco, Calif.—Has named L. W. Gould assistant vice president.

DIAMOND ALKALI CO., Cleveland, Ohio—Has promoted R. E. Shepard to field technical-service man in the company's Electro Chemicals Div., Technical Service Group. W. E. Downey has been transferred to this group. . . . **DOW CHEMICAL CO., TEXTILE FIBERS DEPT.,** Williamsburg, Va.—Has transferred Dr. G. W. Stanton, head of textile research for the department, to assistant to the director of the company's Western Div. research department. Patricia A. Bell has joined the New York City office of the department and will be responsible for fabric and garment publicity. . . . **E. I. DU PONT DE NEMOURS & CO., INC.,** Wilmington, Del.—Has formed an Industrial-Marketing Div. responsible for all sales and merchandising for the company's fibers in the industrial field. M. G. Gamble will be director. The company has

TEN-O-FILM starches and synthetics go hand in hand

Looking for a starch that's compatible with the adjuncts you use in warp sizing synthetics? Ten-O-Film is your answer. This chemically modified starch derivative was specially developed to simplify and improve processing of both the new synthetic and natural fibers.

Ten-O-Film brings new economies to sizing operations. It requires less boiling time than conventional starches: Ten-O-Film reaches stable viscosity in 30 minutes and remains stable even under prolonged heating and circulation. Desizing can be carried out more readily, hence more economical dyestuffs can be used and with greatly reduced bleeding. The clarity of Ten-O-Film sizes will not mask the bright or pastel shades so widely used in modern fabrics. In desizing, the soap boil-off may sometimes replace the enzyme desizing process.

These are only a few of the advantages of using Ten-O-Film starches. Our technical representative will give you the complete Ten-O-Film story. He has tried and tested formulations for all popular synthetic and natural fiber blends.

The technical facilities of the world's largest corn processors await your call. These facilities include laboratories devoted to continuing research in textile technology, as well as unmatched sources of firsthand textile knowledge and experience. Our technical representative will be glad to help you take advantage of these resources. For full information, call our nearest sales office or write direct.

TEN-O-FILM® starches

Fine products for the Textile Industry: CLARO® · GLOBE® EAGLE® · FOXHEAD® · TEN-O-FILM® starches · GLOBE® dextrines

CORN PRODUCTS SALES COMPANY 17 BATTERY PLACE, NEW YORK 4, N.Y.

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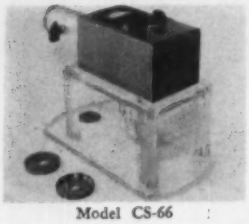
TEST FOR **STATIC** *WITH*



Model CS-66

The ELECTROSTATIC VOLTMETER (CS-66) was developed by the Institute of Textile Technology to detect and measure electrostatic charges on moving or stationary equipment or materials.

The ELECTRICAL RESISTANCE TESTER (CS-51) has been developed for measurement of electrical resistance of fabrics, fibers, film and other materials to determine the static propensities of the materials.

FOLDERS AND PRICE UPON REQUEST.

Model CS-51

CUSTOM SCIENTIFIC INSTRUMENTS

INCORPORATED

541 DEVON STREET KEARNY, N. J.

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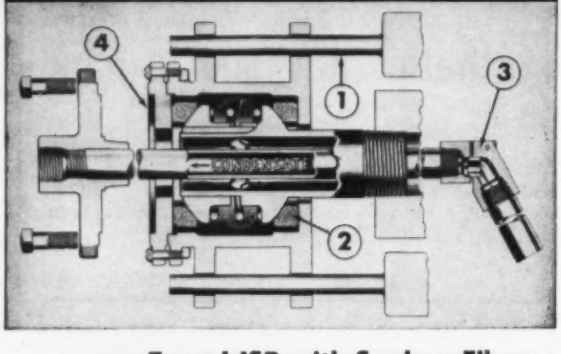
For service on Dry Cans and 30" Slasher Cylinders



Type LJSP with Syphon Elbow

1. Support rods carry all the real weight. Sealing assembly "floats" freely inside. **2.** Seals without packing—needs no lubrication or adjusting. **3.** Syphon elbow replaces clumsy curved syphon pipe with two straight pipes, passes right through joint. **4.** Assembly plate holds parts in place when head is removed.

Johnson ROTARY PRESSURE Joints

First in the Textile Industry

Write for Catalog J-2002

Shows Johnson Joints for all needs, on dry cans, print cans, calenders, compressive shrinkage ranges, 5' and 7' cotton slashers, etc.

THE JOHNSON CORPORATION

814 Wood St., Three Rivers, Mich.

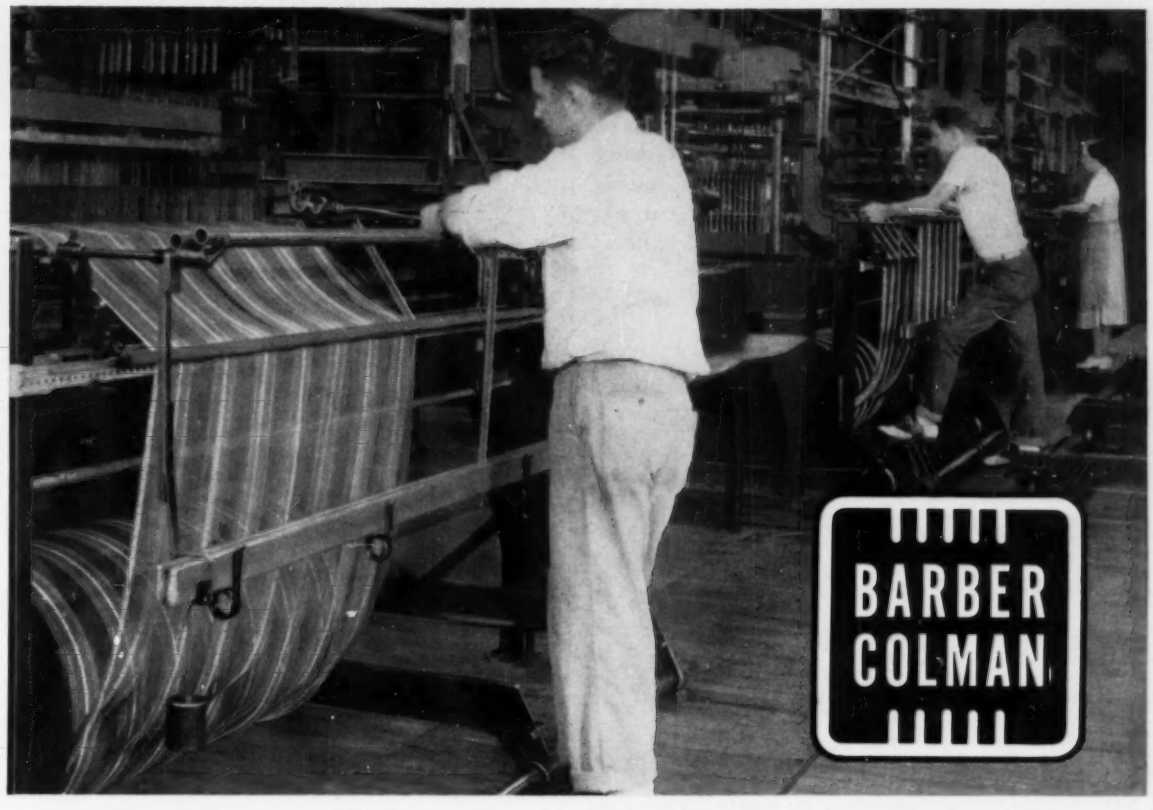
also announced plans for its first major plant for production of polyethylene film for packaging in Richmond, Va. Production will start early next year.

WILLIAM W. GRESHAM (left) has been named sales representative for the Bassick Co., Bridgeport, Conn. His territory will include South Carolina, parts of North Carolina, and eastern Georgia. WALTER E. BREWER (center) has been appointed sales manager of Jacques Wolf & Co., Newark, N. J. DON SCHAAF (right) succeeds Mr. Brewer as manager of the Textile Chemical Dept.

FIDELITY MACHINE CO., INC., Philadelphia, Pa.—Has announced that Lawrence Katz, president and chairman of the board, will direct all company sales and service activities. . . . **GENERAL ANILINE & FILM CORP., DYESTUFF & CHEMICAL DIV.,** New York, N. Y.—Has named E. R. Heintz manager of dyestuff industry sales and O. F. Habel product-line manager of vat dyestuffs. . . . **GENERAL MILLS, INC.,** Minneapolis, Minn.—Has named Dr. W. B. Reynolds vice president and director of research. . . . **GOODYEAR TIRE & RUBBER CO., CHEMICAL DIV.,** Akron, Ohio—Has appointed J. E. Weldon sales representative in the Boston district. . . . **HEVI-DUTY ELECTRIC CO., DIV. OF BASIC PRODUCTS CORP.,** Milwaukee, Wisc.—Has bought Sermax Corp., Milwaukee, Wisc. . . . **HYSTER CO.,** Portland, Ore.—Has named R. F. Moody general sales manager. . . . **INTERNATIONAL BASIC ECONOMY CORP., FLUID POWER DIVS.,** Akron, Ohio—Bellows Co., Valvair Corp., and Sinclair-Collins Valve Co., the three companies comprising the divisions, will build a new manufacturing and assembly plant in West Memphis, Ark., to facilitate distribution in the South. . . . **JEFFERSON CHEMICAL CO., INC.,** Houston, Tex.—Has named P. S. Vail to the sales staff, assigned to the Chicago, Ill., office. . . . **METAL HYDRIDES, INC.,** Beverly, Mass.—Has appointed F. B. Griffin production manager. . . . **MONSANTO CHEMICAL CO.,** St. Louis, Mo.—Has transferred Dr. B. Y. Abadir to the sales department of the Organic Chemicals Div.

NATIONAL STARCH & CHEMICAL CO. (CANADA) LTD., Toronto, Ont.—Has started production at its new vinyl emulsion polymerization plant. . . . **NEW YORK AIR BRAKE CO., AURORA PUMP DIV.,** Aurora, Ill.—Has named J. M. Bals general manager. . . . **ORR & SEMBOWER, INC.,** Reading, Pa.—Has elected R. C. Currie vice president and marketing manager. . . . **PUTNAM CHEMICAL CORP.,** Beacon, N. Y.—Has elected L. E. Moody executive vice president of the corporation. . . . **RAMSEY PRODUCTS CO.,** Albany, N. Y.—Is moving to Charlotte, N. C. . . . **RICHMOND OIL, SOAP, & CHEMICAL CO.,** Philadelphia, Pa.—Has appointed Fawcett & Co. Ltd., Toronto, Ont., Canada, its sales and service organization in Canada. . . . **RIGGS & LOMBARD, INC.,** Lowell, Mass.—Has named G. W. Pierce Southern sales engineer serving cotton and man-made-fiber dyeing and finishing plants. He will make his headquarters in Charlotte, N. C.

ROBERTS CO., Sanford, N. C.—Has licensed Hobourn Aero Components Ltd., Coventry, England, to manufacture Roberts Arrow spinning frames. . . . **JOSEPH T. RYERSON & SON, INC.,** Charlotte, N. C.—Is now selling Reynolds



WARP DRAWING MACHINES HELP YOU KEEP AHEAD WITH FAST PATTERN CHANGES

Mills which are running fancy patterns, special weaves, short-order exclusives, or novelties are often bogged down waiting on drawing-in of new warps. The use of Barber-Colman Warp Drawing Machines can greatly relieve such situations because of the ease and rapidity with which new patterns can be drawn. Operating at speeds (depending on conditions) of from 2,000 to 5,000 ends per hour, these machines will draw cotton, worsted, wool, or filament and spun synthetics for plain or dobby weaves from a flat sheet, split sheet, double beam, or one-and-one leased warp. Correct selection of drop wire, heddle, and reed dent for each end is accurately controlled by a metal pattern strip punched in accordance with the designer's draft. Machines are made in several sizes with capacities up to 26 harness frames and 8 banks of drop wires. *For details, see your Barber-Colman representative . . .*

AMERICAN
TEXTILE MACHINERY
EXHIBITION
ATLANTIC CITY
NEW JERSEY
MAY 23-27, 1960

JUST WHAT YOU NEED FOR A **FAST DRAW!**

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

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Batliboi & Company Forbes Street, Fort Bombay, India	J. Rabasa Isabel la Catolica 45-913 Apartado 7348 Mexico D.F., Mexico	Industria e Comercio de Maquinas S. A. Avenida Rio Branco No. 50, Rooms 1201/3 P. O. Box No. 63 Rio de Janeiro, Brazil	Do-Yei Shoji Kabushiki Kaisha Atlas Building (7th Floor) 11, Bingo-machi, 3-chome, Higashi-ku, Osaka, Japan	Associated Agencies (M'cr.) Ltd. Piccadilly House 11 Piccadilly Manchester 1, England	Associated Agencies (M'cr.) Ltd. 27 Kothari Building Napier Road Karachi 2, Pakistan

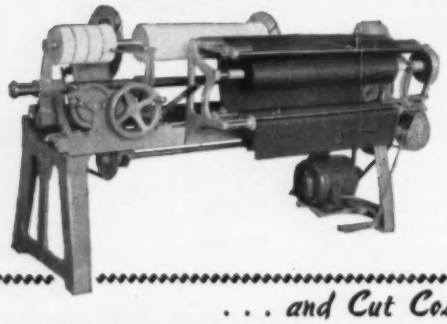
DOUBLE RUB, FOUR BANK TAPE CONDENSER

Built in 48", 60", 72" widths for adaptation to all carding machines. Write for information.

Duesberg-Bosson of America, Inc.
Main Street Jefferson, Mass. P.O. Box 25
CIRCLE 256 ON READER SERVICE CARD

Step Up Production!

UTICA HEAVY DUTY COMBINATION WINDING AND CUTTING MACHINE



. . . and Cut Costs!

- Cuts and winds light, medium, heavy, both straight and bias fabrics . . . has 15 inch diameter knife . . . cuts and rolls up to 12" diameter rolls.
- High speed knife sharpener with 4-way adjustment gives blade clean, sharp edge . . . push button magnetic switch stops and starts machine.
- Has measuring scale and yardage counter . . . can furnish automatic spacer for continuous production.
- Very heavily constructed . . . precision-made for long, trouble-free performance . . . well-guarded . . . made in 45", 55", and 65" widths.

Write TODAY for full information

UTICA NOVELTY AND MILL SPECIALTY CO.
2145 DWYER AVE., UTICA 2, NEW YORK
Builders of Textile Machines Since 1903

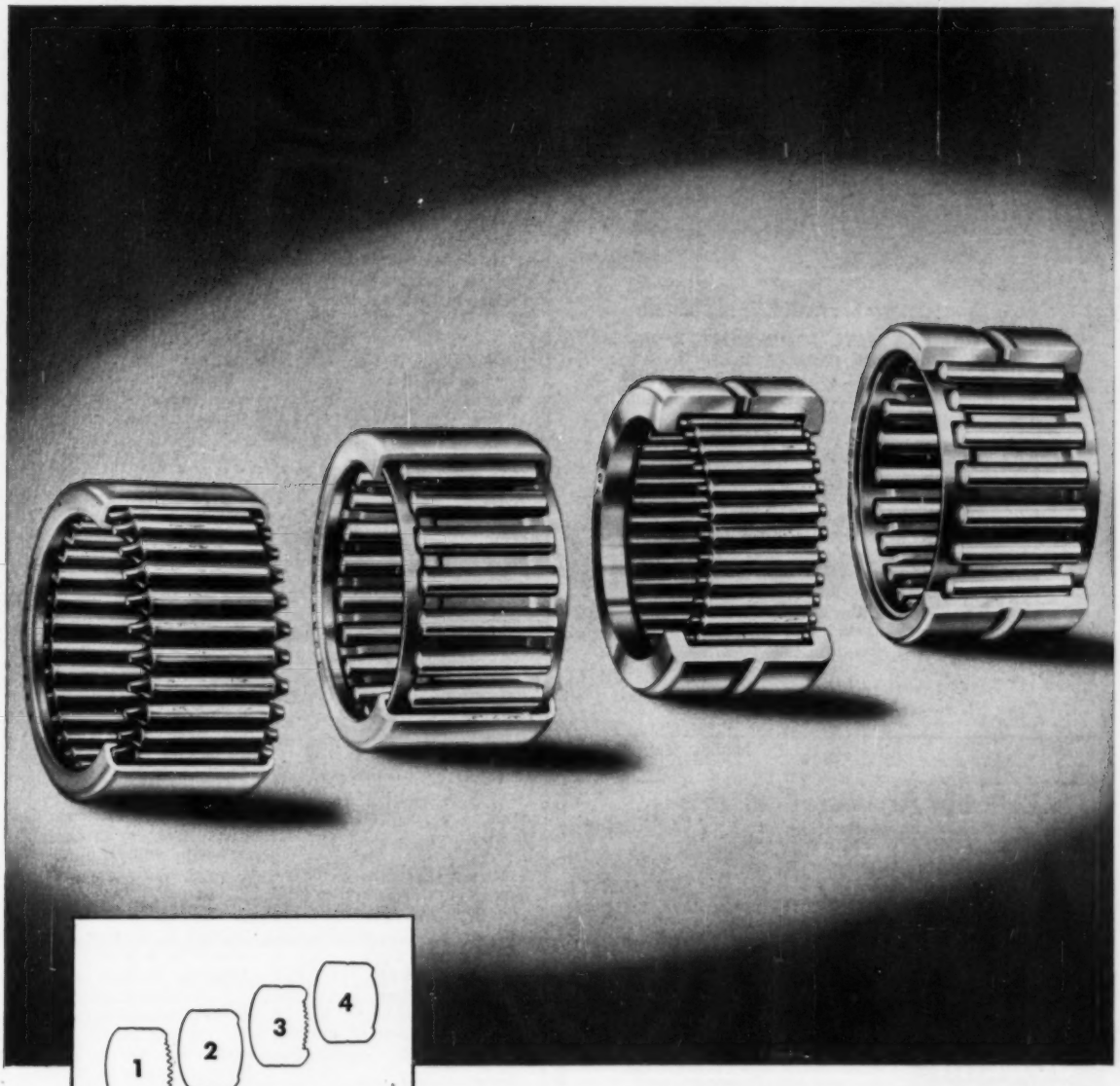
aluminum. The company will also service aluminum products. . . . **SKF INDUSTRIES, INC.,** Philadelphia, Pa.—Has named D. B. Eden to the newly created position of director of distributor sales. He will be responsible for all domestic distributor sales and the operation of field warehouses. J. O. Cushing has been appointed district manager in Atlanta, Ga. He formerly was field engineer in Cincinnati, Ohio. . . . **SACO-LOWELL SHOPS,** Boston, Mass.—Has elected Royden Walters executive vice president. L. H. Ballard has been named sales engineer in the Charlotte, N. C., district office of Saco-Lowell Textile Machinery Div.

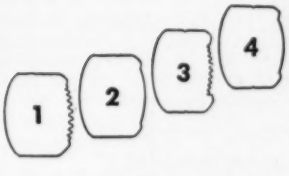
RICHARD S. BUNTING (left) has joined the dyestuff-division sales force of Sandoz, Inc., New York, N. Y., and will work in New England. RICHARD A. HERARD (center) has been appointed Southern representative for David Gessner Co., with headquarters in Greensboro, N. C. JOHN P. BATSON, JR. (right) has been named president of John P. Batson Co., Greenville, S. C.

SANDOZ, INC., New York, N. Y.—Has transferred Robert Welsh from a dyestuff-sales assignment in the Philadelphia, Pa., territory to the Pacific Northwest area. . . . **SCOTT & WILLIAMS, INC.,** Laconia, N. H.—Is establishing a plant in Bruges, Belgium, for its wholly owned subsidiary that will operate under the name of Scott & Williams, S. A. . . . **SOUTHERN LOOM DEVELOPMENT CO.,** Greenville, S. C. —Has changed its name to Southern Machinery Co., and has moved to a new location at 5806 Augusta Rd. The company has also announced that E. J. Williams has joined the staff. . . . **MORRIS SPEIZMAN CO., INC.,** Charlotte, N. C.—Has named F. C. Butler production manager. He will have complete charge of all manufacturing operations in the Speizman group of companies.

A. E. STALEY MFG. CO., Decatur, Ill.—Has named P. W. Atwood a member of the board of directors. H. M. Staley has been elected assistant treasurer of the company. . . . **JAMES TALCOTT, INC.,** New York, N. Y.—Has formed a new industrial time-sales subsidiary, James Talcott Southern, Inc., with headquarters in Atlanta, Ga. . . . **TEXIZE CHEMICALS, INC.,** Greenville, S. C.—Has named D. E. Miles manager of its plant in Palestine, Tex. He succeeds B. J. Dodson, who has been promoted to assistant manager of the company's Consumer Products Div. . . . **UNITED STATES RUBBER CO.,** New York, N. Y.—Has named F. R. Piermattei commodity-sales manager of the company's newly formed Royalene-yarn department. Sales headquarters for the new department are in Providence, R. I.

UNIVERSAL WINDING CO., Providence, R. I.—Has changed its name to Leesona Corp. The company has also announced that it is acquiring the business and fixed assets of Thomas Holt Ltd., Rochdale, England. Leesona will consolidate sales and service carried on by its Manchester, England, branch with the Holt operation.





Torrington Drawn Cup Needle Bearing . . . for maximum radial capacity in minimum cross section . . . positioned by press fit—snap rings or shoulders unnecessary . . . runs directly on hardened shaft . . . most compact, light weight, economical.

Torrington Drawn Cup Roller Bearing . . . for higher speeds or long pregreased life . . . thin section race for simple press fit . . . runs directly on hardened shafts . . . unit construction for easy assembly . . . shaft-riding retainer.

Torrington Heavy Duty Needle Bearing . . . for use with thin section or split housing where extreme impact loads require heavy outer race . . . maximum shock resistance . . . full roller complement . . . unit construction.

Torrington Heavy Duty Roller Bearing . . . for combination of high speed, long pregreased life or shock resistance . . . roller stability provided by end-guiding . . . flange-riding retainer . . . unit design.

All of these types of bearings are available with inner races.

Only Torrington Makes All Four!

Torrington developed the Needle Bearing and its specialized variations. This breadth of experience assures impartial engineering recommendations based on specific application requirements. You can rely on Torrington to recommend the most compact and economical design compatible with operating conditions and performance requirements. Call on your Torrington representative for help in applying the right bearing in the right place. **The Torrington Company, Torrington, Conn.—and South Bend 21, Indiana.**

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CIRCLE 161 ON READER SERVICE CARD 161

NEWS ABOUT MEN

Charles B. Adams has been appointed director of purchasing of man-made yarns and fibers for J. P. Stevens & Co., Inc., succeeding James A. Lybrand, Jr., who retired July 31.

Dick Anderson has been promoted to night overseer of weaving, slashing, and cloth at the Ware Shoals, S. C., division of Riegel Textile Corp.

James Ashcraft has been named shift supervisor of spinning at Abbeville Mills Corp., Abbeville, S. C.

W. E. Ashley has been named superintendent of Trion Cotton Mill, Trion, Ga.

William A. Bishop, Jr., has been promoted to assistant supervisor of dyeing at Union Bleachery, Greenville, S. C.

Ulrich B. Buchanan has been elected president of Vanette Hosiery Mills, Dallas, Tex.

Zebbie Bush has been promoted to overseer of the slasher room at the Ware Shoals, S. C., division of Riegel Textile Corp.

John Cauthen has been named plant manager for the Fayetteville plant of Burlington Mills, Inc., Fayetteville, N. C.

W. T. Cline, Jr., has been promoted to superintendent of textile-yarn manufacturing of the Chemstrand Corp.'s plant in Pensacola, Fla.

Jack B. Cole has been named superintendent of tire-yarn manufacturing at Chemstrand Corp.'s plant in Pensacola, Fla.

Robert E. Coleman has been named director of production, planning, and inventory control at Riegel Textile Corp., Ware Shoals, S. C.

W. L. Craven has been named vice president and resident manager of Rhodhiss-Pacific Mills, Rhodhiss, N. C.

Fred Durham has resigned as superintendent of the Tilton plant of J. P. Stevens & Co., Inc., Tilton, Ga.

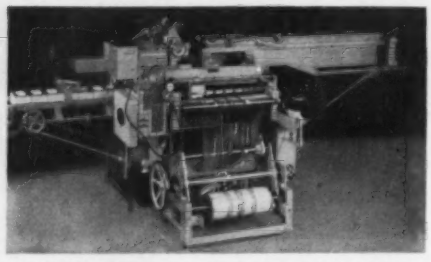
Dewey J. Dyer has been promoted to manager of the Thomaston division of Thomaston Mills, Inc., Thomaston, Ga.

Ray Faircloth has been named overseer of carding at Abbeville Mills Corp., Abbeville, S. C., succeeding Carl Davis.

Noel E. Garvin has been named to a divisional manufacturing position in Burlington Industries' executive offices, Greensboro, N. C. Mr. Garvin will be in charge of operations for a group of weaving plants in Burlington, Greensboro, and Kernersville, N. C.

William J. Gibson has been

SIDNEY W. CLAY (left) and CLETUS W. HOLDEN (right) have been named to the board of directors at Ohio Falls, Inc., Louisville, Ky. Mr. Holden is secretary and treasurer of the company.



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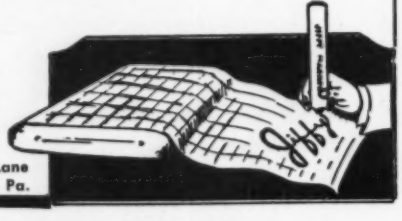

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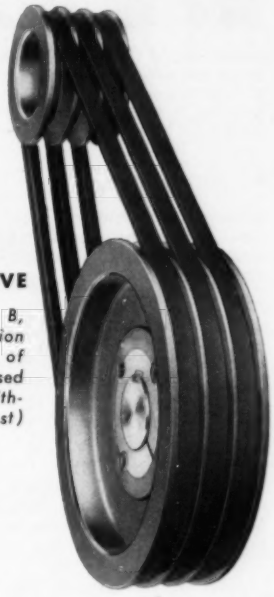
DODGE Dyna V



CONVENTIONAL TAPER-LOCK DRIVE

(— using standard A, B, C, D and E cross section belts, the hp ratings of which have been increased an average of 40% without any increase in cost)

DYNA-V TAPER-LOCK DRIVE

NEW HIGH CAPACITY

NEW COMPACTNESS

NEW SAVINGS IN COST

COMPARISON, ILLUSTRATED ABOVE — 3 HP, 1750 RPM, 2.41 TO 1 RATIO

	BELTS		SHEAVES			CENTER DISTANCE	HP	WEIGHT (LBS.)	COST	
	Number	Size	O.D. Driver	O.D. Driven	Width				Per hp	Per Drive
CONVENTIONAL TAPER-LOCK DRIVE	3	A42	4.15"	8.95"	2½"	12.3"	4.62	24.7	$5.62	$25.98
DYNA-V TAPER-LOCK DRIVE	2	3V400	3.35"	8.00"	1$\frac{3}{32}$"	10.8"	5.0	18.0	$4.50	$22.50
% SAVING Savings vary with different sized drives			**19%**	**10%**	**56%**	**12%**	+	**27%**	**19.9%**	**13.4%**

Dyna-V Drives are sensationally compact. They are capable of handling up to three times as much horsepower in a given space. Dyna-V opens vast new possibilities for better, more economical machine design. And, in most instances, *Dyna-V costs less!*

Narrower grooves, to match stronger, narrower Dyna-V Belts, greatly reduce the face width and the weight of Dyna-V Sheaves. Cost is lowered. Smaller diameter sheaves and shorter center distances multiply savings.

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Dyna-V Drives will be available for capacities from 1 to 1500 hp. Ask your Dodge Distributor. Or write us for new Dyna-V Bulletin.

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GUARANTEED

to give drip-tight leak-proof seal

greatest name in unions

DART

For over 55 years the firm guarantee back of each and every DART UNION sold has been — *"if one should leak through we will give you two"!* The record reveals that less than 1 in every 100,000 has proven to be faulty. The extra wide bronze to bronze seats, precision ground to a true ball joint, mounted in heavy malleable iron pipe ends and protected by an extra heavy union nut, make a drip-tight, leak-proof connection WITHOUT EXCESSIVE WRENCHING time and time again.

Guarantee positive tight connections and extra long service on your pipe lines by using the DART GUARANTEED UNION.

Yours on request: Descriptive brochure on Dart Unions and Union Fittings.

DART UNIONS *Products of* **DART UNION COMPANY PROVIDENCE 5, R. I.**

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CIRCLE 259 ON READER SERVICE CARD

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Complete engineering service a part of every McBride installation.

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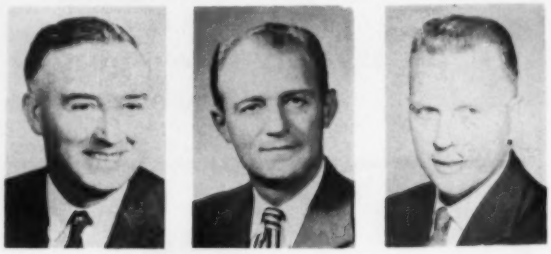

JAMES MILLAR (left) has been elected vice president in charge of research and development of Revonah Spinning Mills, Hanover, Pa. JACK D. SHAFER (center) has been elected vice president in charge of manufacturing at the company, and THORNTON C. RACE (right) has been elected vice president in charge of sales.

promoted to assistant technical superintendent at Thomaston Mills, Inc., Thomaston, Ga.

Walter L. Goddard is retiring as general manager of the Northern group of the woolen and worsted division of J. P. Stevens & Co., Inc., Greensboro, N. C.

M. Riggs Goodman has been named plant manager of Cascade Weaving Co., Mooresville, N. C., succeeding Noel E. Garvin.

John G. Gravlee, Jr., has been named vice president in charge of sales of Burlington Throwing Co., High Point, N. C.

Gary Gray has been promoted to night overseer of carding and spinning at Ware Shoals, S. C., division of Riegel Textile Corp.

Ernest Greer has been named superintendent of weaving at Trion Cotton Mill, Trion, Ga.

Ralph S. Hoisington has been appointed assistant to the vice president in charge of raw-material procurement at Dan River Mills, Inc., Dan River, Va.

Sam Homewood has been named general superintendent of the Raeford, N. C., plant of Pacific Mills.

Robert B. Judel has been named president of James Thompson Co., Inc., Valley Falls, N. Y. He will also serve as vice president of Pleasant Valley Finishing Co., Inc., Pleasant Valley, N. Y.

John J. McDonough has been elected a director of Pepperell Mfg. Co., Boston, Mass.

William R. Landa has been named a vice president of Burlington Industries, Inc., Greensboro, N. C.

George E. Norman, Jr., has been elected a vice president of Burlington Industries, Inc., Greensboro, N. C.

James G. Middleton has been named general manager of the Rocky Mount and Wilson, N. C., plants of Sidney Blumenthal & Co.

Henry A. Millis has been named a vice president in charge of the men's and children's hosiery division of Burlington Hosiery Co., Greensboro, N. C.

Robert H. Painter has been appointed an overseer of weaving at Judson Mills, Greenville, S. C.

William R. Phillips has joined Sidney Blumenthal & Co., Rocky Mount, N. C., as merchandising assistant to James S. Love, Jr., president.

Richard J. Powers has been elected vice president and general counsel, Indian Head Mills, Inc., New York, N. Y.

Dr. Fred Stilson Perkerson has joined Cone Mills Corp., Greensboro, N. C., as manager of the company's central laboratory.

Charles Quirion has been named manager of National Spinning Co.'s Whiteville, N. C., plant.

1929–1959

30 Years

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CONSULTING ENGINEERS FOR THE TEXTILE INDUSTRY

REORGANIZATION
PROJECTS
NEW PLANTS
COST ACCOUNTING
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New ALLEN PACKAGE DESIGN KIERS

For boiling or bleaching all types of cotton goods from gauze to heavy twills, these new ALLEN stainless steel Package Design kiers offer unusual opportunities for more profitable operation to small and medium sized bleacheries and those doing fine fabrics. Large plants, too, find them extremely useful for short runs and special fabrics. In many cases, they are replacing continuous bleaching operations for certain types of goods. Allen Package Design Kiers feature:

- **A completely prefabricated unit — pump and heater are integral parts of the kier — for easier installation and maintenance.**
- **Smooth, stainless steel interiors eliminate rub, rust and stain marks.**

Write today for circulars giving complete information on this as well as Allen kiers for knit goods and kiers for cotton and cotton batting.

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A Division of O. G. KELLEY & COMPANY, Boston 22, Mass.

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Automated
MICRONAIRE
Fiber Tester

- Speeds up checking two to three times.
- Provides a quick, easy, accurate and authorative measure of fiber fineness.
- Indicates the quality and value of the cotton.
- Indicates the dyeing properties.
- Measures the maturity of cotton.
- Predicts the spin-ability of cotton.
- Forecasts the appearance of the yarn and cloth by indicating the number of neps to be expected.

For NEW Book "Advantages and World-Wide use of the Micronaire in all segments of the Cotton and Textile Industries"
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NEWS ABOUT MEN Continued

Edmund Rigby has been promoted to executive vice president of Berkshire Hathaway, Inc., New Bedford, Mass.

Ed Reilling has been made an assistant vice president of Pacific Mills, Greensboro, N. C. He continues as administrative manager of Raeford Worsted Corp., Rhodhiss-Pacific Mills, and Pacific Mills Worsted Co.

Gerard A. Roy has been promoted to plant manager of the Washington, D. C., plant of National Spinning Co.

C. W. Sartain has been named cloth-room overseer at Starr Mills Corp., Starr, S. C.

Claude H. Settlemyer has been named executive vice president of Cannon Mills Co., Kannapolis, N. C.

Robert G. Sharpe has been promoted to manager of the Spofford Mills, Inc., plant in Wilmington, N. C.

Charles Gaston Shepherd has been named supervisor of weaving at Kernersville Weaving Plant, Kernersville, N. C.

Joseph R. Snyder has been elected president of Pleasant Valley Finishing Co., Inc., Pleasant Valley, N. Y.

C. Lowrey Stafford, Jr., has been elected a vice president of Burlington Industries, Inc., Greensboro, N. C.

John K. Stanton has been promoted to vice president in charge of administration at Berkshire Hathaway, Inc., New Bedford, Mass.

John E. Van Nest has joined the woolen division of Amerotron Co., New York, N. Y. He will work on development of fabrics of wool and man-made-fiber blends.

Edwin J. Yowell has been appointed to the new position of technical director of the industrial-sewing-threads divi- of American & Efird Mills, Inc., Mount Holly, N. C.

Textile World

OBITUARY

Dr. James Bellezza, Jr., 46, process manager of the nylon-Corduna manufacturing division, Textile Fibers Dept., E. I. Du Pont de Nemours & Co., Inc., Wilmington, Del.

Ormand Wesley Clark, 61, textile chemist with American Cyanamid Co.'s plant at Bound Brook, N. J.

I. Fletcher Craven, 86, president and treasurer, Columbia Mfg. Co., Ramseur, N. C.

John Simpson Crowe, 74, retired superintendent of Belton Yarn Mills, Belton, S. C.

Grosvenor Ely, 75, former textile executive, Warwick, N. Y.

Philip Doblin, vice president in charge of merchandise for all Wamsutta Mills' divisions, New Bedford, Mass.

Harold V. Farnsworth, 64, vice president and director of Atkinson, Haserick & Co., Inc., Framingham, Mass.

Milton Kingson, 55, president of Milburn Mills, Inc., and Bryant Finishing Co., Inc., West Warwick, R. I.

George E. Marble, 81, retired vice president of Curtis & Marble, Inc., Worcester, Mass.

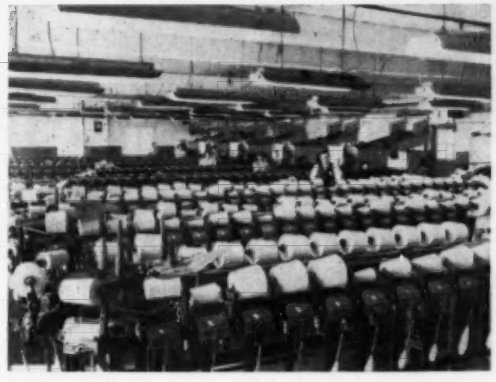
Lewis S. Milner, 80, former treasurer of Franklin Processing Co., Providence, R. I.

Hubert C. Patterson, Sr., 72, retired textile executive, Albemarle, N. C.

ABBOTT MACHINE CO., Inc.

WILTON, NEW HAMPSHIRE

SOUTHERN SALES AND SERVICE: GREENVILLE, S. C.



AUTOMATIC CONE OR TUBE WINDERS—for winding all types of spun yarns on cones or tubes for Warping, Dyeing, Twisting, Quilling, Knitting or Sales Packages.

SPECIAL WINDING UNITS FOR KNITTING CONES—include a new slub catcher and a new waxing attachment, which uses standard size commercial wax disks.

LARGE PACKAGES—can be wound up to 11½ inches in diameter for use on shuttleless looms and looms that require a cone supply.

MODEL I AUTOMATIC QUILLER—for coarse count cotton, worsted, wool and other spun yarns, delivers full loom bobbins automatically into boxes, onto pinboards, on wide belt conveyor for inspection of bobbins, or into specially made magazines for automatic loom feeder.

MODEL II HIGH SPEED AUTOMATIC QUILLER (10,000 R.P.M.)—for winding fine count cotton and synthetic yarns of either spun or filament construction.

Also delivers full loom bobbins automatically into boxes, onto pinboards or wide belt conveyor for inspection of bobbins.

Under some conditions one operator can run two or three machines and produce upwards of 2500 full loom bobbins per hour.

ABBOTT FULLY AUTOMATIC RADIAL QUILLER, MODEL II—especially designed for flexibility, is very versatile and particularly well adapted for winding numerous small lots of filling.

Winds coarse or fine count cotton, worsted, wool, rubber and various synthetic yarns, either spun or filament.

Automatic delivery of full loom bobbins onto pinboards, wide belt conveyor for inspection of bobbins, into baskets or other type containers.

Automatic delivery of bobbins can also be supplied whereby full loom bobbins from the individual cones and spindles are delivered into separate containers, which is highly desirable for loom finish yarns and the like.

The Radial Quiller can also be equipped with measured yardage attachments to give accurate, uniform bobbin yardage, as required for two-shuttle looms.

A wide range of spindle speeds from approximately 1000 R.P.M. to 10,000 R.P.M. is obtainable.

One operator can run several machines and thus produce up to 2000 loom bobbins, or more, per hour.

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This 32-page Mill Maintenance Cleaning Guide provides valuable information for all thinking textile men vitally concerned with the necessity of reducing operating expenses.

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NOW a whole new with cotton

It is now possible for you to produce without modification of your present equipment wash 'n' wear fabrics of superior properties.

Why? Because there is a new fiber of super strength rayon available. It is AVRON rayon.

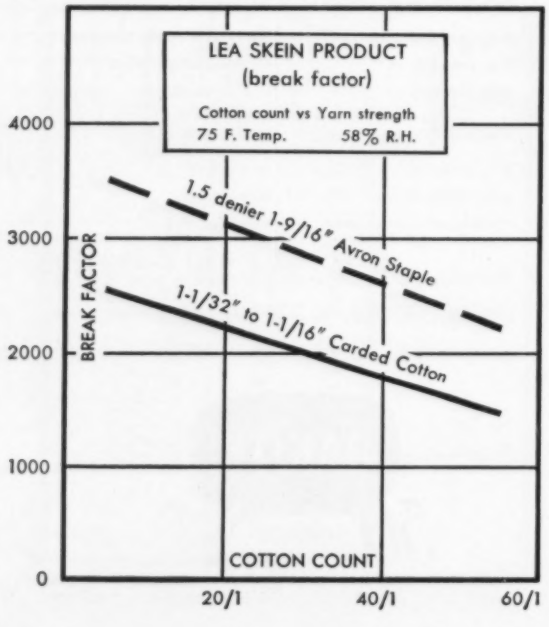
The new fiber excels cotton for single fiber tensile strength in the conditioned state, approximates it for the same property when wet. AVRON is not degraded to the same extent as cotton, by resin finishing and, added to cotton it imparts a soft hand unattainable with cotton alone.

NO CHANGE IN TECHNIQUES NECESSARY. Avron rayon may be worked through the cotton system without any modification of equipment. Because of superior tensile strength, spinning and weaving efficiency is higher for Avron rayon than for cotton. And in any drawing frame blend with cotton, less waste means a cost saving.

EASE OF DYEING. Avron dyes to any shade easily without changing your techniques. In fact, it has a greater affinity for dye than cotton.

LIGHTER FABRICS FOR SAME STRENGTH. Because of the strength of AVRON fibers you can turn out lighter wash 'n' wear fabrics of the same strength as cotton, and a more even fabric because of the uniformity of AVRON yarn. Also, standard weight cotton constructions can be made with 75 to 100% greater tensile strength and tear strength.

PROPERTIES OF AVRON FIBER OF SPECIAL IMPORTANCE TO THE MILL . . .



Stress Strain	100% Cotton	100% AVRON
Single Fiber Tensile (grams per denier)		
Conditioned	3.65	4.07
Wet	4.20	2.96
Single Fiber Extensibility		
Conditioned	10.0	30.2
Wet	13.0	37.0
Moisture Regain, Adsorption	7%	12%

COMPARISON OF YARN PROPERTIES

	Cotton*	AVRON
Yarn Count (Cotton System)	30/1	30/1
Turns/Inch	24.0	16.5
Lea Skein—Strength (lbs.)	72	100
Product	2170	3000
Single End—Strength (ozs.)		
Conditioned	10.2	13.9
Wet	11.8	9.7
Single End—Product		
Conditioned	307	418
Wet	354	290
Single End—Extensibility		
Conditioned	6.1	20.0
Wet	9.3	24.0

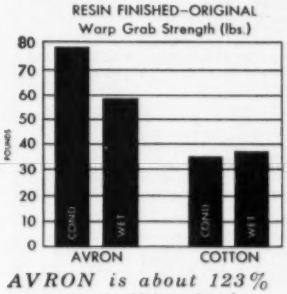
*1-1/32" to 1-1/16" Carded Cotton

(Finer count yarns can obviously be made from AVRON fibers)

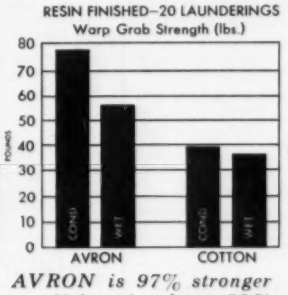
approach to wash 'n' wear fabrics warp and **AVRON*** rayon filling
high strength

COMPARISON OF AVRON AND COTTON IN FINISHED FABRICS

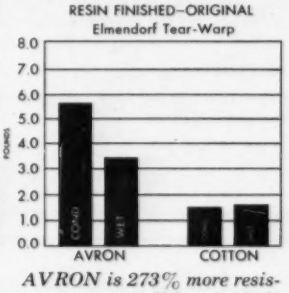
The following charts clearly demonstrate the superiority of AVRON over cotton. Fabrics were tested before and after 20 home-type launderings at 140° F.



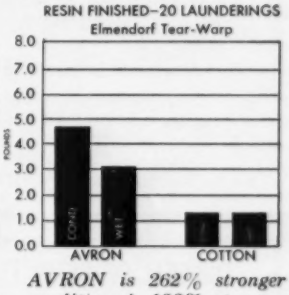
AVRON is about 123% stronger conditioned, about 60% stronger wet than cotton fabrics.



AVRON is 97% stronger conditioned, about 53% stronger wet than cotton fabrics.



AVRON is 273% more resistant to tear conditioned, 106% stronger wet than cotton.



AVRON is 262% stronger conditioned, 138% stronger wet.

HOW COMMERCIALLY-PRODUCED AVRON FABRICS COMPARE WITH MINIMUM REQUIREMENTS FOR WASH 'N' WEAR FABRICS, STATED BY NATIONAL ASSOCIATION OF SHIRT, PAJAMA, AND SPORT SHIRT MANUFACTURERS

	136 X 60 COMBED BROADCLOTH			100 X 58 CARDED BROADCLOTH		
	Required	Cotton Warp AVRON* filling	% Improvement	Required	Cotton Warp AVRON* filling	% Improvement
Filling tensile strength	25 lbs.	44 lbs.	76%	25 lbs.	40 lbs.	60%
Filling tear strength	450 gm	1600 gm	256%	450 gm	1600 gm	256%
Wrinkle recovery	220	250	14%	220	250	14%
Wash-wear rating	3.0-5.0	3.0-5.0	—	3.0-5.0	3.0-5.0	—

*Trademark American Viscose Corporation

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Your requirements will be brought promptly to the attention of the used equipment dealers advertising in this issue. You will receive replies directly from them.

SEARCHLIGHT
Equipment Locating Service
c/o Textile World
P. O. Box 12, N. Y. 36, N. Y.

Please help us locate the following used equipment:

.....

.....

.....

NAME .....

TITLE .....

STREET .....

COMPANY .....

CITY .....

ZONE .....STATE 10/59

COMPRESSORS-VACUUM PUMPS

FOR THE FINEST IN REBUILTS

1902 AMERICAN 1959

100 CFM 125 psi 6x7 Ing. Rand ES1
137 CFM 100 psi 7x7 Ingersol ES1
184 CFM 135 psi 8x9 Ing. ES1
234 CFM 135 psi 9x9 Ing. ES1-Worth HB
283 CFM 35 psi 10x7 Ingersol ES1
321 CFM 125 psi 10x11 Ing. ES1
437 CFM 40 psi 12x9 Ing. ES New Cylinder
465 CFM 100 psi 12x11 Ing. ES1
528 CFM 100 psi 14x12 Ing. ER
686 CFM 100 psi 14x13 Ing. ES Worth-HB
730 CFM 50 psi 15x11 Worth HB
823 CFM Vac. 18x7 Ing. ES
940 CFM 30 psi 17x11 Ing. ES-1
1016 CFM 55 psi 17x13 Ing. ES
1100 CFM Vac. 17x7 Joy WGV9

690 CFM 100 psi
13⅛—8x7 Chic. Pneu. YCM
100 HP GE Syn 3-60-440

1270 CFM 40 psi 19x13 Ing. ES-1
1410 CFM 35 psi 20x13 Worth HB-Ing. ES
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1545 CFM 110 psi 250 HP
21—13x14 Ing. Rand XRE
250 HP GE Syn 3-60-220/440

American Air Compressor Corp.
Dell & Tex Streets — North Bergen, N. J.

FOR SALE

Good Machinery—Low Prices

30—Drying Cans 80" x 30" dia.
2—Sipp E. Hy Speed Warpers 83".
2—Sipp E. Mag Cone Creels.
2—Air Perme-ator Humidifier Units.
1—VV 3 Roll Calendar 60"
72—Spdle Whitin Schweiter Auto Quillers.
1—Hinnekins 2 Roll Embosser 50" New.
1—Hinnekins Moire Calendar 50" New.
1—Hercules Extractor 50" Copper Basket.
2—SS Tru Shade 6' Dye Tubs, with SS Hoods.
1—Johnson Sizer, 5 Copper Cans 66" Wide.
1—Ingersol Rand 75 HP Air Compressor.

STAVE & KESSLER
106 Kearney Street
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FOR SALE

1—Perkins 3 Roll 50" Hydraulic Friction Calender

JAMES E. FITZGERALD
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Tel. OS 8-5616

FOR SALE

SPINNING-PAPER

3—Saco-Lowell 88 x 6½ Ring x 8 ga. x 9 Trav. Complete with Creels, Wetting Attachments and 15 HP x 550v drive.

FS-2650, Textile World
Class. Adv. Div., P.O. Box 12, N.Y. 36, N.Y.

BRASS **PIN-PLATES** All Sizes

PUT YOUR PIN TENTERS IN TIP-TOP CONDITION

SEND US OLD PLATE FOR QUOTATION

Pins in Stainless, Monel, Plain Steel.

All Diameters Any Length

SOUTHERN TEXTILE WORKS
P. O. BOX 406 ANDERSON, S. C.

Spinning Frames—Completely Modernized

Available Now From Stock

25,000 spindles, 3" gauge, Whitin Model F and B
20,000 spindles, 3" gauge, Saco-Lowell (latest box head)
10,000 spindles, 3¼" gauge, Whitin Model B
15,000 spindles, 3½" gauge, Whitin Model F and B
5,200 spindles, 3½" gauge, Saco-Lowell (latest box head)
6,000 spindles, 3½" gauge, Fales & Jenks (latest box head)
4,500 spindles, 4" gauge, Whitin Model B

Suitable for: Warp or Filling Yarns, Cotton or Synthetic Staple

Completely Modernized with:

Open Type Umbrella Creels
Latch Bobbin Holders
Suction End Collection
Double Apron High Draft System
Individual Drive Pulleys with Ball Bearings
Ball Bearing Tape Tension Pulleys
Ball Bearing Top Drive Spindles
High Speed Rings

Attractive Prices on all or any portion of these lots
Delivery and Erection Supervision can be included

Export Dealer Inquiries Invited

ROBERTS COMPANY, Sanford, N.C.

Manufacturers of Textile Machinery
Contact Trade-In Department: M. C. Golden, telephone SPring 4-8811

8—56" S.S. Dry Cans 35 lb. pressure.
36—72" S.S. Dry Cans.
8—45" S.S. Dry Cans.
10—72" S.S. New Dry Cans.
10—96" S.S. Dry Cans.
1—60' & 1—50' Morrison Tenter Frames.
1—New Embosser 15 ton Pneumatic—$2500.00.
3—V.V. 80"-70"-65" Tensionless Tubers—1955—heavy duty.
1—V.V. 30' x 62" Tenter—S.S. Clips.
1—Verduin 53" Padder—5 ton—2 roll.
1—Hinnekens Boil-Off Machine 52", S.S. Conveyor Rods—S.S. Cylinders.
1—Smith-Drum 3 arm S.S. Cascade Skein Dyeing Machine—1956.
1—72" CRA Tubing, Doubling & Measuring Machine with reverse.
4—60" Hinnekens Dye Jiggs—stainless.
1—V.V. 73" Decatur—1950—blanket like new.
2—54" Embossing Machines.
2—72" Scutchers, vari-speed Drives.
2—96" Rubber Rolls 18" & 12" Dia.—$600 for the Set.
10—4' to 16' S.S. Dye Becks, tensionless.
1—Woonsocket Napper 36 rolls 86" dble. acting, ball bearing rolls—$1200.00.
1—#5 B.B. Enclosed Reeves Drive—$500.00.
2—Link Belt P.I.V. Drive Units, VM5, 4 to 1, direct driven 10 H.P. Motors.
1—#4 Nash Pump with 30 H.P. Motor & slotted vacuum cylinder—$400.00.
1—L6 & 2-L5 Nash Pumps—$450 & $350 each.
2—L4 Nash Pumps & Motors—$350 each.

A & M BLANK CO., INC.

301-313 East 22nd St. (at 7th Ave.) Paterson, N.J.
SHerwood 2-1367-8

BIALEK'S BEST BUYS

40—C&K, 72", 4x1 Conv. C-4
30—C&K, 56", 2x1 Auto. S-5
20—C&K, 72", 4x1 Auto. C-4
Verduin 60" Padder
Whitin Auto. Quillers, 1950-51
Abbott Auto. Quillers
Hayes Alum. Section Beams
Hermas 62" Shearer
Sipp Vertical Cake Creels
22—C&K, 72", 4x1, W-3

THEODORE BIALEK & CO.

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NEW YORK 1, N. Y.
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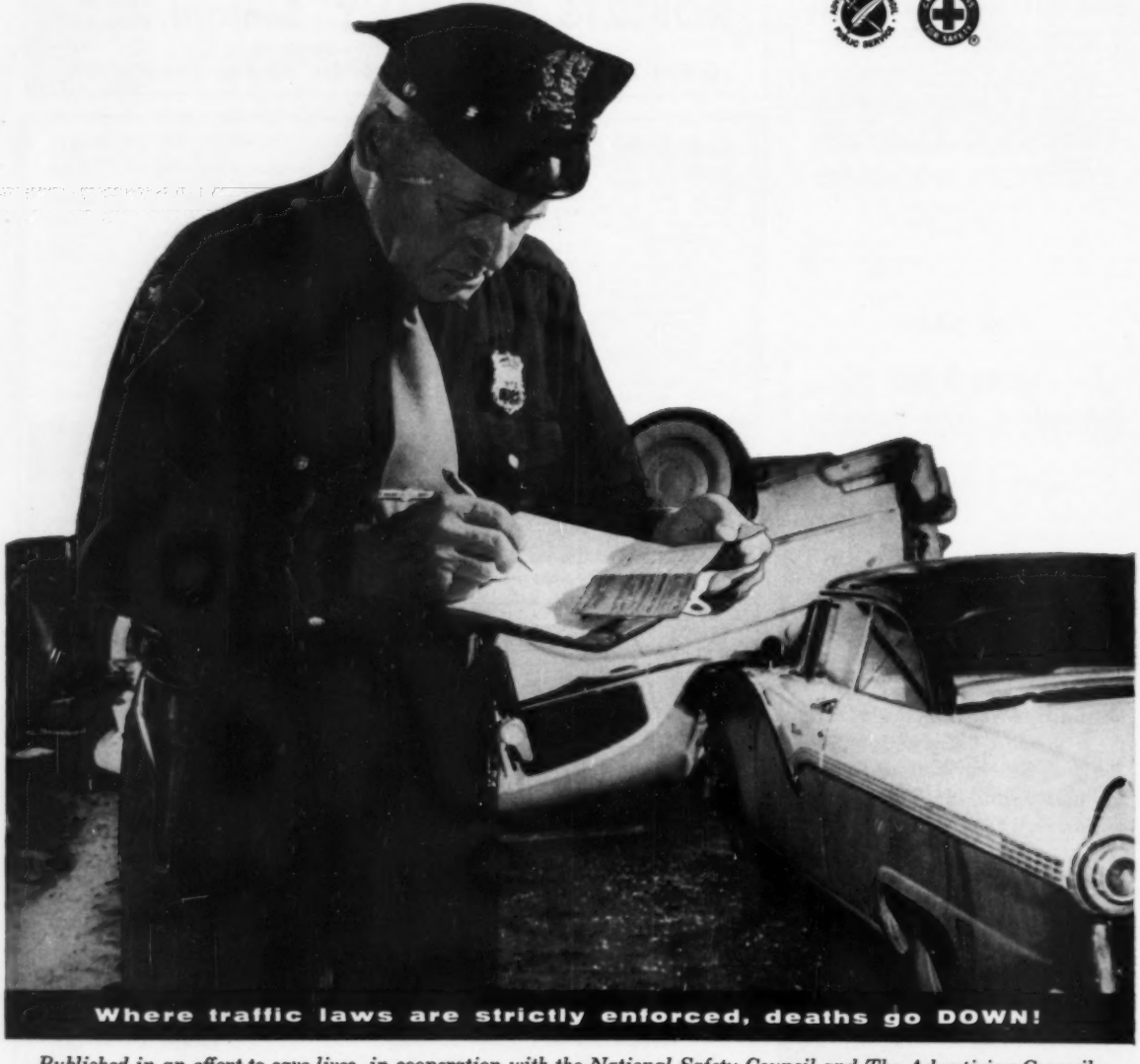
230 BELMONT AVE
HALEDON, N. J.
LAmbert 3-5886-7

Last year, traffic accidents killed 37,000, injured 1,400,000

. . . and they wasted Five Billion Dollars!

Traffic accidents' human toll is so tragic we sometimes overlook their staggering economic waste. Five Billion Dollars in lost wages, medical expenses, insurance costs and property damage! Your business—every business—shares in this loss. So you have a double interest in helping reduce traffic accidents. And you *can* help! Drive safely and obey the law yourself . . . certainly. But go further. Use your influence to promote safe driving and urge strict law enforcement. To make your efforts more effective, join with others working actively to reduce traffic hazards in your community. *Support your local Safety Council!*



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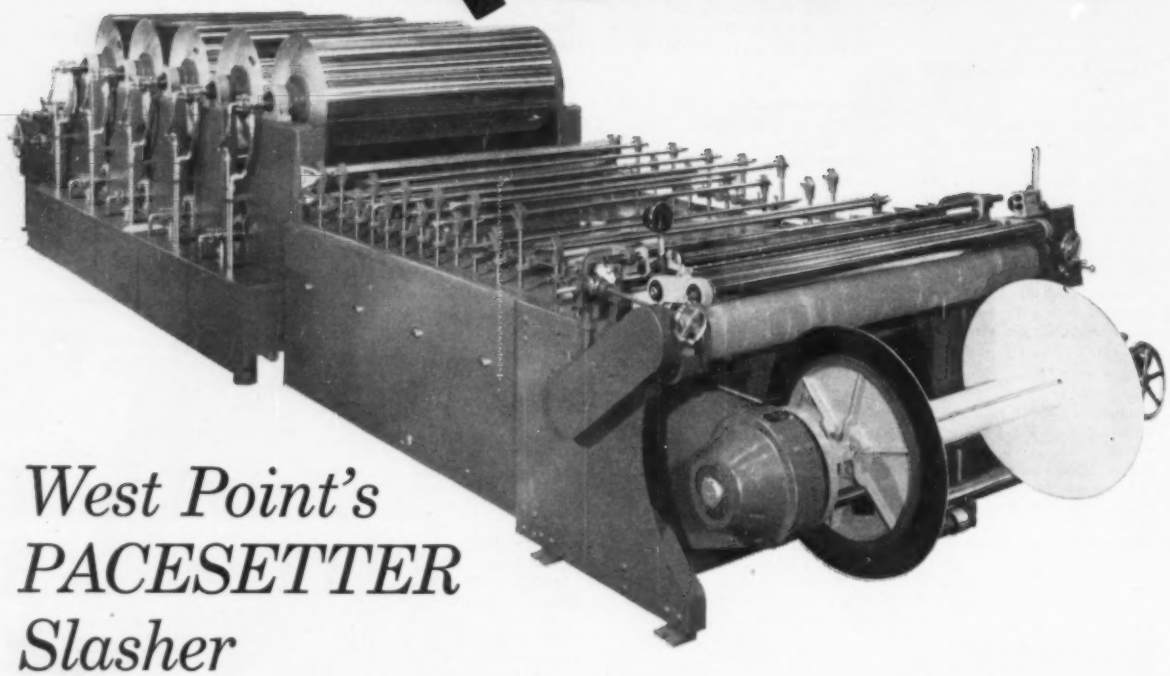


West Point's PACESETTER Slasher

This **LATEST MODEL** of West Point Foundry's high capacity multi-cylinder slasher has the largest journals and bearings, the largest sprockets, the heaviest frame.

The **PACESETTER CYLINDER SECTION** features side panels that simply lift out to give easy access to cylinders and sprockets. No bolts, screws or nuts to remove, to tighten or to lose. *Covered steam and condensate manifolds* for safety and ease of cleaning.

The **PROVED AND RUGGED HEAD END** with traversing headstock is already in operation in a dozen mills on the widest sheeting and the lightest leno.

- Can accommodate beams varying over *100 inches* in width without projecting arbors . . . NOT LIMITED TO 50 INCHES.
- No gear reducer, no gear motor, no torque tube, no universal joints! What could be simpler and less troublesome than chain and V-belt drive with replacement parts available from any supply house?

LEADERSHIP PROVED BY SALES: *In the last three years alone, over 50 textile mills have installed more than 130 West Point Foundry Multi-Cylinder Slashers.*

WEST POINT
Foundry & Machine
Company

WEST POINT, GEORGIA

Production losses are "saved" when using

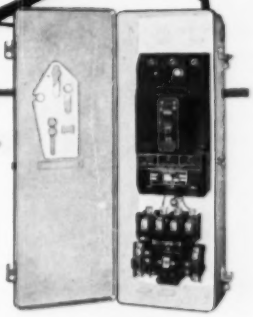
Trouble Free ALLEN-BRADLEY Motor Controls

Costly production delays resulting from control failures are eliminated when you equip your mills with Allen-Bradley solenoid motor starters.

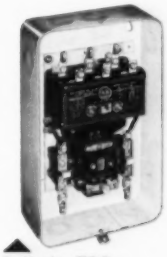
This simple solenoid design—for which Allen-Bradley starters are famous—has only ONE moving part. This assures millions of trouble free operations. There are no bearings to stick . . . no flexible jumpers to break. And the double break, silver alloy contacts *never* need service attention. Permanently accurate and reliable thermal overload relays protect motors against "burnouts."

Insist on A-B quality motor control—it's your best insurance for maximum production economy.

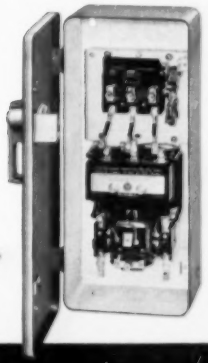
Allen-Bradley Co., 120 W. Greenfield Ave., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.



Bulletin 713
Combination Starter
with circuit breaker as
disconnect means.



Bulletin 709
Across-the-Line Solenoid Motor Starter.



Bulletin 712
Combination Starter
with manual disconnect switch.

ALLEN-BRADLEY QUALITY MOTOR CONTROL

it pays to get

Veeder-Root

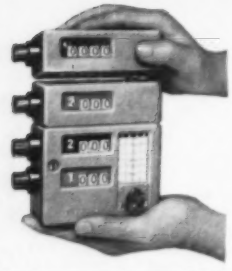
COST-COUNTROL

all through your mill

From preparation to final inspection, Veeder-Root *Count*rols help modern mills to *Count*rol production and costs . . . with accurate, up-to-the-minute figures on every process.

At the right are the most widely used profit-protectors in the Veeder-Root Textile Line. Let your Veeder-Root representative show you how little it will cost to equip your mill *completely* with these new counters. *Call him in today.*

Remember . . . *Men Who Count* are the men who count the profits.



2-3-4 Pick, Hank, Yardage & Knitting Machine Counters

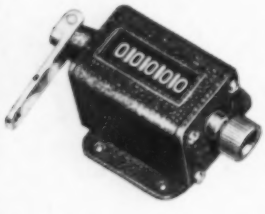
These convertible counters record production separately for each of 2, 3, or 4 shifts, providing a basis for wage payment. Basic 2-shift counter can have 3rd and 4th shift counting units added right in your mill, on the machine, as needed.

Double-Wheel Measuring Counters:

Worm-driven Reset Counter at left registers linear units as material passes under the friction wheels. Medium speed range. Widely used in inspection.

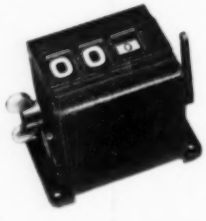
High Speed Reset Double Wheel Counter runs at speeds up to 6,000 rpm or 8,000 cpm.

Resets to zero with finger-flick. Features eye-level reading.



Small Reset Counters

Used on a wide variety of textile machines, including breakers, winders, marking machines, knitting machines and bobbin strippers. Revolution or ratchet types, for speed up to 1,000 counts per minute.



Hosiery Dozens Counter

Used in inspection or on knitting machines. Small figures show single-stocking count. Large figures indicate dozens of pairs up to 100. Hand, foot or machine actuated.

Reset Magnetic Counters

Base mounted or panel mounted. Ruggedly built for speeds up to 1,000 counts per minute. Knob or lock-key reset. Other models for speeds up to 3,000 counts per minute.

Widely used for remote indication.

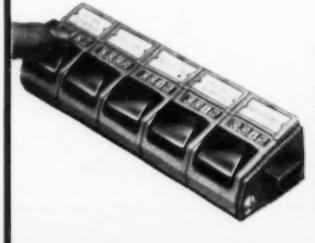
Loom Cut Meters

AND PREDETERMINING COUNTERS:

Cut Meters are predetermining counters for looms, for controlling lengths of cloth woven, without cut marks . . . and without over-runs and shortages. Also available are High Speed Predetermining Counters, both geared and ratchet types, to count any preset number of revolutions, strokes, pieces, lengths.

Count/Pak

The new Veeder-Root Count/Pak — an economical device for high velocity, noncontact counting. Ideal for use on bobbin strippers. Speeds up to 2,500 counts per minute with absolute accuracy. Features include a transistorized circuit with photoelectric sensing system, rugged and reliable construction and Veeder-Root instant reset, high speed electric counter for dependability and long life.



Vary-Tally

This modern hand-operated counter, made only by Veeder-Root, is arranged compactly on stands in tiers. Easily portable, it is ideal for order, stock, inventory control, sales and market analysis, payroll denomination, estimates, traffic control and product inspection. Can be supplied in any of 67 combinations up to 6 tiers high and 12 units wide. Entire row of counters is reset to zero with a turn of one knob.

Veeder-Root INC.

Hartford 2, Connecticut

The Name that Counts

Hartford, Conn. • Greenville, S. C. • Altoona, Pa. • Chicago • New York • Los Angeles
San Francisco • Seattle • St. Louis • Montreal. Offices and Agents in other principal cities

VR® 60